



July 30, 2013

**ATTN: Document Control Desk**

Mr. Drew Persinko, Deputy Director  
Decommissioning and Uranium Recovery Licensing Directorate  
Division of Waste Management and Environmental Protection  
Office of Federal and State Materials and Environmental Management Programs  
Mailstop T8 F5  
U.S. Nuclear Regulatory Commission  
Washington, DC 20555-0001

FedEx # 8768 8066 5683

RE: NRC License SUA-1548, Docket No. 40-8964  
Smith Ranch-Highland Uranium Project  
2013-14 Surety Estimate Updates and Request for Additional Information – 2012-13  
Financial Assurance Estimates (TAC J00677)

Dear Mr. Persinko:

Pursuant to License Condition 9.5 of Source Material License SUA-1548, Power Resources, Inc. d/b/a/ Cameco Resources (Cameco) is herein submitting the 2013-14 Surety Estimate Updates for the Smith Ranch and Highland Uranium Projects. These estimates result in proposed surety amounts of \$133,216,000 and \$81,942,600 for the Smith Ranch and Highland projects, respectively, which represents an overall (combined) increase of \$2,383,827 from the current approved amounts of \$120,044,303 and \$92,730,470.

Under cover dated May 29, 2013, Cameco received a Request for Additional Information (RAI) following NRC's review of the 2012-13 surety estimates, with a recommendation that the RAI comments be addressed in the 2013-14 surety updates. While these comments were addressed by Cameco during preparation of the 2013-14 updates, Cameco will be providing specific responses to the RAI comments under separate cover that includes a summary of the adjustments made in the 2013-14 surety estimates.

If you have questions or need additional information prior to Cameco's response to the 2012-13 financial assurance RAIs, please feel free to contact me directly at (307) 316-7586.

**CAMECO RESOURCES**

Smith Ranch-Highland  
Operation  
Mail:  
P.O. Box 1210  
Glenrock, WY  
82637 USA

Tel: (307) 358-6541  
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[www.cameco.com](http://www.cameco.com)

Sincerely,

A handwritten signature in black ink, appearing to read "Scott A. Bakken", with a long horizontal flourish extending to the right.

Scott A. Bakken  
Manager, SHEQ Systems & Compliance

SB/sb

Att: Smith Ranch Uranium Project, 2013-14 Surety Estimate Update  
Highland Uranium Project, 2013-14 Surety Estimate Update

cc: D. Mandeville, USNRC w/Att  
File SR 4.6.4.1 w/Att  
File HUP 4.6.4.1 w/Att

ec: CR-Cheyenne

**Cameco Resources  
Smith Ranch Uranium Project  
2013-14 Surety Estimate**

<b>Total Restoration and Reclamation Cost Estimate</b>			
<b>I.</b>	<b>Groundwater Restoration (GWR-WF and GWR-SITE Sheets)</b>		<b>\$82,473,178</b>
<b>II.</b>	<b>Well &amp; Drill Hole Abandonment (WA Sheet)</b>		<b>\$19,876,596</b>
<b>III.</b>	<b>Wellfield Buildings &amp; Equipment Removal &amp; Disposal (WF BLDGS Sheet)</b>		<b>\$4,997,353</b>
<b>IV.</b>	<b>Wellfield and Satellite Surface Reclamation (WF REC Sheet)</b>		<b>\$987,961</b>
<b>V.</b>	<b>Equipment Removal &amp; Disposal (EQUIP Sheet)</b>		<b>\$1,562,909</b>
<b>VI.</b>	<b>Building Removal &amp; Disposal (BLDGS Sheet)</b>		<b>\$4,000,657</b>
<b>VII.</b>	<b>Miscellaneous Reclamation (MISC REC Sheet)</b>		<b>\$1,941,337</b>
	<b>Subtotal Restoration and Reclamation Cost Estimate</b>		<b>\$115,839,990</b>
	<b>Contractor Profit &amp; Overhead (10%)<sup>1</sup></b>	<b>See Master Costs</b>	
	<b>Contingency (15%)<sup>2</sup></b>	<b>15%</b>	<b>\$17,375,999</b>
		<b>TOTAL<sup>3</sup></b>	<b>\$133,216,000</b>
<sup>1</sup> , Per WDEQ/LQD Guideline No. 12, Section 12(b)			
<sup>2</sup> , Per WDEQ/LQD Guideline No. 12, Section 12(a) and (c-h), Section 13 and NRC License Condition 9.5 (SUA-1548)			
<sup>3</sup> , Costs reflect both WDEQ & NRC requirements. No salvage value assumed.			



**Cameco Resources**  
**Smith Ranch Uranium Project**  
**2013-14 Surety Estimate Update**

	Mine Unit 1	Mine Unit 2	Mine Unit 3/Ext	Mine Unit 4/4A	Mine Unit 15	Mine Unit 15A	Mine Unit K	K-North	Mine Unit 9	Mine Unit 10	Mine Unit 10-Ext	Mine Unit 27	Mine Unit 21	Mine Unit 7
<b>Ground Water Restoration -Wellfield</b>														
<b>I. Ground Water Sweep Costs</b>														
Estimated PV's	0	1	1	0.6	1	1	1	1	1	1	0	1	0	1
Total kgal for GWS	0	110,785	152,825	71,530	137,426	52,669	84,209	78,562	136,376	190,435	0	149,139	0	104,736
Bleed to Deep Disposal Well (%)	100	100	100	100	100	100	100	100	100	100	100	100	100	100
Groundwater Sweep Unit Cost (\$/kgal)	\$1.90	\$1.90	\$1.90	\$1.90	\$1.90	\$1.90	\$1.90	\$1.90	\$1.90	\$1.90	\$1.90	\$1.90	\$1.90	\$1.90
Subtotal Ground Water Sweep Costs per Wellfield	\$0.00	\$210,639.42	\$290,571.56	\$136,001.75	\$261,292.90	\$100,141.43	\$160,109.54	\$149,372.70	\$259,296.49	\$362,080.78	\$0.00	\$283,563.24	\$0.00	\$199,138.25
<b>Total Ground Water Sweep Costs</b>	<b>\$2,412,208</b>													
<b>II. Reverse Osmosis Costs</b>														
Estimated PV's	0	4.5	4.5	3.5	4.5	4.5	4.5	4.5	4.5	4.5	0	4.5	0	4.5
Total Kgal for RO	0	498,533	687,713	417,256	618,417	237,011	378,941	353,529	613,692	856,958	0	671,126	0	471,312
Wellfield Pumping Cost	\$0.19	\$0.19	\$0.19	\$0.19	\$0.19	\$0.19	\$0.19	\$0.19	\$0.19	\$0.19	\$0.19	\$0.19	\$0.19	\$0.19
Reverse Osmosis Unit Cost (\$/kgal)	\$0.58	\$0.58	\$0.58	\$0.58	\$0.58	\$0.58	\$0.58	\$0.58	\$0.58	\$0.58	\$0.58	\$0.58	\$0.58	\$0.58
Bleed to Deep Disposal Well (%)	20%	20%	20%	20%	20%	20%	20%	20%	20%	20%	20%	20%	20%	20%
Brine Volume for Disposal	0	99,707	137,543	83,451	123,683	47,402	75,788	70,706	122,738	171,392	0	134,225	0	94,262
DDW Disposal Cost (\$/kgal)	\$1.06	\$1.06	\$1.06	\$1.06	\$1.06	\$1.06	\$1.06	\$1.06	\$1.06	\$1.06	\$1.06	\$1.06	\$1.06	\$1.06
Permeate Volume for Re-Use	0	398,826	550,170	333,805	494,734	189,608	303,152	282,823	490,954	685,566	0	536,900	0	377,050
Satellite Pumping Cost	\$0.66	\$0.66	\$0.66	\$0.66	\$0.66	\$0.66	\$0.66	\$0.66	\$0.66	\$0.66	\$0.66	\$0.66	\$0.66	\$0.66
Subtotal Reverse Osmosis & Disposal Costs per Wellfield	\$0.00	\$748,375.78	\$1,032,364.75	\$626,366.96	\$928,341.30	\$355,790.08	\$568,849.36	\$530,702.70	\$921,248.33	\$1,286,428.15	\$0.00	\$1,007,465.05	\$0.00	\$707,513.53
<b>Total Reverse Osmosis Costs</b>	<b>\$8,713,446</b>													
<b>III. Reverse Osmosis with Chemical Reductant Costs</b>														
Estimated PV's	1.0	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	0.0	3.5	0.0	3.5
Total kgal for RO	62,837	387,748	534,888	417,256	480,991	184,342	294,732	274,967	477,316	666,523	0	521,987	0	366,576
Wellfield Pumping Cost	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Reverse Osmosis with Chemical Reductant Unit Cost (\$/kgal)	\$0.67	\$0.67	\$0.67	\$0.67	\$0.67	\$0.67	\$0.67	\$0.67	\$0.67	\$0.67	\$0.67	\$0.67	\$0.67	\$0.67
Bleed to Deep Disposal Well (%)	20%	20%	20%	20%	20%	20%	20%	20%	20%	20%	20%	20%	20%	20%
Brine Volume for Disposal (kgal)	12,567	77,550	106,978	83,451	96,198	36,868	58,946	54,993	95,463	133,305	0	104,397	0	73,315
DDW Disposal Cost (\$/kgal)	\$1.06	\$1.06	\$1.06	\$1.06	\$1.06	\$1.06	\$1.06	\$1.06	\$1.06	\$1.06	\$1.06	\$1.06	\$1.06	\$1.06
Permeate Volume for Re-Use	\$50,270	\$310,198	\$427,910	\$333,805	\$384,793	\$147,473	\$235,785	\$219,974	\$381,853	\$533,218	\$0	\$417,589	\$0	\$293,261
Satellite Pumping Cost (\$/kgal)	\$0.66	\$0.66	\$0.66	\$0.66	\$0.66	\$0.66	\$0.66	\$0.66	\$0.66	\$0.66	\$0.66	\$0.66	\$0.66	\$0.66
Subtotal RO with Chemical Reductant per Wellfield	\$100,224.86	\$618,456.28	\$853,144.21	\$665,522.26	\$767,179.43	\$294,024.23	\$470,096.00	\$438,571.67	\$761,317.81	\$1,063,101.70	\$0.00	\$832,567.14	\$0.00	\$584,687.79
<b>Total Reverse Osmosis Costs</b>	<b>\$7,448,893</b>													
<b>IV. Mechanical Integrity Testing (MIT) Costs</b>														
Pre-Restoration, Restoration and Stability Period (yrs)	2	8	11	7	10	13	14	15	18	19	0	7	0	17
Number of Production Wells	95	134	207	229	416	0	171	99	260	210	0	220	0	135
Number of MITs required per Well	0.4	1.6	2.2	1.4	2.0	2.6	2.8	3.0	3.6	3.8	0.0	1.4	0.0	3.4
MIT Cost per Production Well	\$201.65	\$201.65	\$201.65	\$201.65	\$201.65	\$201.65	\$201.65	\$201.65	\$201.65	\$201.65	\$201.65	\$201.65	\$201.65	\$201.65
Number of Injection Wells	160	233	280	371	835	0	280	175	398	380	0	420	0	250
Number of MITs required per Well	0.4	1.6	2.2	1.4	2.0	2.6	2.8	3.0	3.6	3.8	0.0	1.4	0.0	3.4
MIT Cost per Injection Well	\$130.60	\$130.60	\$130.60	\$130.60	\$130.60	\$130.60	\$130.60	\$130.60	\$130.60	\$130.60	\$130.60	\$130.60	\$130.60	\$130.60
Subtotal MIT Mine Unit	\$16,020.97	\$91,920.69	\$172,279.78	\$132,481.59	\$385,871.46	\$0.00	\$198,938.85	\$128,454.00	\$375,865.21	\$349,500.21	\$0.00	\$138,899.82	\$0.00	\$203,565.65
<b>Total MIT Costs</b>	<b>\$2,193,798</b>													
<b>V. Wellfield Refurbishment Costs</b>														
Well Replacement (#)	0	60	100	60	121	0	0	0	0	0	0	0	0	0
Replacement (\$/well)	\$14,763	\$14,763	\$14,763	\$14,763	\$14,763	\$14,763	\$14,763	\$14,763	\$14,763	\$14,763	\$14,763	\$14,763	\$14,763	\$14,763
Bellhole Refurbishment (#)	0	7	11	14	0	0	0	0	0	0	0	0	0	0
Refurbishment (\$/bellhole)	\$5,530	\$5,530	\$5,530	\$5,530	\$5,530	\$5,530	\$5,530	\$5,530	\$5,530	\$5,530	\$5,530	\$5,530	\$5,530	\$5,530
Header House Refurbishment (#)	0	5	5	11	23	0	0	0	0	0	0	0	0	0
Refurbishment (\$/header house)	\$32,000	\$32,000	\$32,000	\$32,000	\$32,000	\$32,000	\$32,000	\$32,000	\$32,000	\$32,000	\$32,000	\$32,000	\$32,000	\$32,000
Subtotal Refurbishment Cost per Wellfield	\$0	\$1,084,490	\$1,697,130	\$1,315,200	\$2,522,323	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
<b>Total Wellfield Refurbishment Cost</b>	<b>\$6,619,143</b>													
<b>VI. Monitoring and Sampling Costs</b>														
<b>A. Pre-Restoration Monitoring</b>														
1. Excursion Monitoring (M, MO and MU wells, twice per month)														
# of Wells	49	50	52	90	83	42	51	53	69	90	0	70	0	44
Total # samples	0	1200	7488	0	3984	9072	9792	13992	16560	21600	0	0	0	10560
UCL Parameters (\$/sample)	\$30.00	\$30.00	\$30.00	\$30.00	\$30.00	\$30.00	\$30.00	\$30.00	\$30.00	\$30.00	\$30.00	\$30.00	\$30.00	\$30.00
Subtotal Pre-Restoration Monitoring Costs per Mine Unit	\$0.00	\$36,000.00	\$224,640.00	\$0.00	\$119,520.00	\$272,160.00	\$293,760.00	\$419,760.00	\$496,800.00	\$648,000.00	\$0.00	\$0.00	\$0.00	\$316,800.00
<b>Total Pre-Restoration Monitoring Costs</b>	<b>\$2,827,440</b>													



**Cameco Resources**  
**Smith Ranch Uranium Project**  
**2013-14 Surety Estimate Update**

Ground Water Restoration -Wellfield	Mine Unit 1	Mine Unit 2	Mine Unit 3/Ext	Mine Unit 4/4A	Mine Unit 15	Mine Unit 15A	Mine Unit K	K-North	Mine Unit 9	Mine Unit 10	Mine Unit 10-Ext	Mine Unit 27	Mine Unit 21	Mine Unit 7
<b>B. Restoration Monitoring</b>														
1. Sampling Prior to Start-up (MP Wells)														
# of Wells	0	31	27	10	22	10	13	11	14	20	0	15	0	7
Modified Guideline 8 (\$/sample)	\$249.00	\$249.00	\$249.00	\$249.00	\$249.00	\$249.00	\$249.00	\$249.00	\$249.00	\$249.00	\$249.00	\$249.00	\$249.00	\$249.00
2. Restoration Progress Monitoring (MP Wells, every 2 months)														
# of Wells	19	31	27	30	22	10	13	11	14	20	0	15	0	7
Total # samples	114	1116	648	1080	924	180	390	198	588	960	0	540	0	252
Restoration Progress Parameters (\$/sample)	\$50.00	\$50.00	\$50.00	\$50.00	\$50.00	\$50.00	\$50.00	\$50.00	\$50.00	\$50.00	\$50.00	\$50.00	\$50.00	\$50.00
3. Excursion Monitoring (M, MO and MU wells, every 2 months)														
# of Wells	68	50	52	90	83	42	51	53	69	90	0	70	0	44
Total # samples	408	1800	1248	3240	3486	756	1530	954	2898	4320	0	2520	0	1584
UCL Parameters (\$/sample)	\$30.00	\$30.00	\$30.00	\$30.00	\$30.00	\$30.00	\$30.00	\$30.00	\$30.00	\$30.00	\$30.00	\$30.00	\$30.00	\$30.00
Subtotal Restoration Monitoring Costs per Mine Unit	\$17,940.00	\$117,519.00	\$76,563.00	\$153,690.00	\$156,258.00	\$34,170.00	\$68,637.00	\$41,259.00	\$119,826.00	\$182,580.00	\$0.00	\$106,335.00	\$0.00	\$61,863.00
Total Restoration Monitoring Costs	\$1,136,640.00													
<b>C. Stability Monitoring</b>														
1. Beginning of stability (MP wells)														
# of Wells	19	31	27	30	22	10	13	11	14	20	0	15	0	7
Modified Guideline 8 (\$/sample)	\$249.00	\$249.00	\$249.00	\$249.00	\$249.00	\$249.00	\$249.00	\$249.00	\$249.00	\$249.00	\$249.00	\$249.00	\$249.00	\$249.00
2. Quarterly sampling (MP wells)														
# of Wells	19	31	27	30	22	10	13	11	14	20	0	15	0	7
Total # samples	76	124	108	120	88	40	52	44	56	80	0	60	0	28
Modified Guideline 8 (\$/sample)	\$249.00	\$249.00	\$249.00	\$249.00	\$249.00	\$249.00	\$249.00	\$249.00	\$249.00	\$249.00	\$249.00	\$249.00	\$249.00	\$249.00
3. Monitor Well Sampling (M wells, every 2 months)														
# of Wells	25	24	24	57	39	18	28	28	43	49	0	40	0	20
Total # samples	150	144	144	342	234	108	168	168	258	294	0	240	0	120
UCL Parameters (\$/sample)	\$30.00	\$30.00	\$30.00	\$30.00	\$30.00	\$30.00	\$30.00	\$30.00	\$30.00	\$30.00	\$30.00	\$30.00	\$30.00	\$30.00
Subtotal Stability Monitoring Costs per Mine Unit	\$28,155.00	\$42,915.00	\$37,935.00	\$47,610.00	\$34,410.00	\$15,690.00	\$21,225.00	\$18,735.00	\$25,170.00	\$33,720.00	\$0.00	\$25,875.00	\$0.00	\$12,315.00
Total Stability Monitoring Costs	\$343,755.00													
<b>D. Other Laboratory Costs</b>														
Radon Sampling	\$26,400.00	\$105,600.00	\$145,200.00	\$92,400.00	\$132,000.00	\$171,600.00	\$184,800.00	\$198,000.00	\$237,600.00	\$250,800.00	\$0.00	\$92,400.00	\$0.00	\$224,400.00
Subtotal Monitoring and Sampling Costs per Mine Unit	\$72,495.00	\$302,034.00	\$484,338.00	\$293,700.00	\$442,188.00	\$493,620.00	\$568,422.00	\$677,754.00	\$879,396.00	\$1,115,100.00	\$0.00	\$224,610.00	\$0.00	\$615,378.00
<b>Total Monitoring and Sampling Costs</b>	<b>\$6,169,035</b>													
<b>VII. Header House Heating Costs</b>														
Number of Header Houses per Unit(s)	6	5	10	11	13	10	9	7	13	9	0	11	0	7
Pre-Restoration and Restoration Period (yrs)	1	7	10	6	9	12	13	14	17	18	0	6	0	16
Electrical Heating Costs (\$/yr)	\$3,222	\$3,222	\$3,222	\$3,222	\$3,222	\$3,222	\$3,222	\$3,222	\$3,222	\$3,222	\$3,222	\$3,222	\$3,222	\$3,222
Subtotal Header House Heating Cost per Wellfield	\$19,331	\$112,766	\$322,189	\$212,645	\$376,962	\$386,627	\$376,962	\$315,746	\$712,039	\$521,947	\$0	\$212,645	\$0	\$360,852
<b>Total Header House Heating Costs</b>	<b>\$3,930,712</b>													
<b>TOTAL RESTORATION COST PER WELLFIELD</b>	<b>\$208,072</b>	<b>\$3,168,682</b>	<b>\$4,852,018</b>	<b>\$3,381,918</b>	<b>\$5,684,158</b>	<b>\$1,630,203</b>	<b>\$2,343,377</b>	<b>\$2,240,601</b>	<b>\$3,909,163</b>	<b>\$4,698,158</b>	<b>\$0</b>	<b>\$2,699,750</b>	<b>\$0</b>	<b>\$2,671,135</b>
<b>TOTAL WELLFIELD RESTORATION COSTS</b>	<b>\$37,487,235</b>													

**Cameco Resources**  
**Smith Ranch Uranium Project**  
**2013-14 Surety Estimate Update**

Ground Water Restoration - Site Wide									
<b>I. Building Utility Costs</b>	<b>CPP</b>	<b>Main Office</b>	<b>Maint Shop</b>	<b>Pumphouse</b>	<b>Sat SR-1</b>	<b>Sat SR-2</b>	<b>Sat Reynolds</b>		
Electricity Unit Cost (\$/yr)	\$27,976	\$23,538	\$5,293	\$9,279	\$37,985	\$37,985	\$37,985		
Propane (\$/yr)	\$187	\$0	\$0	\$0	\$0	\$36,423	\$36,423		
Natural Gas (\$/yr)	\$78,354	\$0	\$0	\$0	\$8,639	\$0	\$0		
Number of Years	18	18	18	18	16	18	6		
Subtotal Utility Cost per Building	\$1,917,307	\$423,691	\$95,282	\$167,028	\$745,992	\$1,339,353	\$446,451		
*Yrs for Satellite SR-1 assumes end of restoration for MU-7									
*Yrs for Satellite Reynolds assumes end of restoration for MU-27									
<b>Total Building Utility Costs</b>	<b>\$5,135,104</b>								
<b>II. Deep Disposal Well Utility Costs</b>	<b>SR-1</b>	<b>SR-2</b>	<b>REY-1</b>	<b>REY-2</b>	<b>REY-3</b>	<b>SRHUP #6</b>	<b>SRHUP #7</b>	<b>SRHUP #8</b>	<b>SRHUP #10</b>
Electricity Unit Cost (\$/yr)	\$4,223	\$4,223	\$4,223	\$4,223	\$4,223	\$4,223	\$4,223	\$4,223	\$4,223
Propane (\$/yr)	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Natural Gas (\$/yr)	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Number of Years	18	18	18	18	18	18	18	18	18
Subtotal Utility Cost per Building	\$76,019	\$76,019	\$76,019	\$76,019	\$76,019	\$76,019	\$76,019	\$76,019	\$76,019
<b>Total Deep Disposal Well Utility Costs</b>	<b>\$684,170</b>								
<b>III. Booster Pump Operation Costs</b>									
Restoration Period (yrs)	18								
Booster Pump Operating Cost (\$/yr)	\$155,962.62								
<b>Total Booster Pump Operating Cost</b>	<b>\$2,807,327</b>								
<b>IV. Infrastructure, Equipment Maintenance, Replacement and Repair Costs</b>									
Annual Maintenance Cost	\$92,320								
Restoration Period (yrs)	18								
<b>Total Cost</b>	<b>\$1,661,760</b>								
<b>V. Deep Disposal Well MIT Costs</b>									
Five-year MIT Costs for Disposal Wells	\$31,625.00								
Number of DDWs	9								
Number of MITs per DDW	3								
<b>Total DDW MIT Cost</b>	<b>\$853,875</b>								
<b>VI. Capital Costs</b>									
*Estimates based on planned expenditures (2013)									
Deep Disposal Well SRHUP #7	\$3,400,000								
Deep Disposal Well REY #2	\$3,400,000								
Deep Disposal Well REY #3	\$3,400,000								
RO Installation (Satellite SR-2)	\$600,000								
RO Installation (Reynolds Satellite)	\$600,000								
Satellite SR-2 to Mine Unit 15 Pipeline	\$266,376								
SR-HUP Connecting Pipeline	\$209,872								



**Cameco Resources  
Smith Ranch Uranium Project  
2013-14 Surety Estimate Update**

<b>Total Capital Costs</b>	<b>\$11,876,248</b>								
<b>VII Vehicle Operation Costs</b>									
Number of Pickup Trucks (Gas)	10								
Truck Cost (\$/hr)	\$22.14								
Average Operating Time (hrs/yr)	1000								
Restoration and Stability Period (yrs)	19								
<b>Total Vehicle Operation Cost</b>	<b>\$4,207,170</b>								
<b>VII Labor Costs</b>									
Assumptions:									
Number of Environmental Managers/RSOs	0.5								
\$/hr	\$64.40								
Number of Restoration Managers	0.5								
\$/hr	\$56.00								
Number of Environmental Techs/HPTs	2								
\$/hr	\$35.00								
Number of Operators/Laborers	7								
\$/hr	\$36.40								
Number of Maintenance Technicians	2								
\$/hr	\$32.20								
Hrs/yr	2080								
Restoration and Stability Period (yrs)	19								
<b>Total Labor Cost</b>	<b>\$17,760,288</b>								
<b>TOTAL SITE-WIDE RESTORATION COSTS</b>	<b>\$44,985,943</b>								

**Cameco Resources  
Smith Ranch Uranium Project  
2013-14 Surety Estimate Update**

Well and Drill Hole Abandonment	Mine Unit 1	Mine Unit 2	Mine Unit 3/Ext	Mine Unit 4/4A	Mine Unit 15	Mine Unit 15A	Mine Unit K	K-North	Mine Unit 9	Mine Unit 10	Mine Unit 10-Ext	Mine Unit 27	Mine Unit 21	Mine Unit 7	Other
<b>I. Well Abandonment (Wellfields)</b>															
A. Sealing Costs						Inc in MU-15									
Total # of Wells per Wellfield	308	479	652	750	1505	0	510	328	744	682	60	728	0	431	21
Production, Injection and Perimeter Well Average Depth (ft)	500	850	750	850	450	500	950	864	950	900	900	800	600	825	950
Well Abandonment (Sealing) Costs (\$/ft)	\$2.75	\$2.75	\$2.75	\$2.75	\$2.75	\$2.75	\$2.75	\$2.75	\$2.75	\$2.75	\$2.75	\$2.75	\$2.75	\$2.75	\$2.75
Subtotal Sealing Costs per Wellfield	\$423,500	\$1,119,663	\$1,344,750	\$1,753,125	\$1,862,438	\$0	\$1,332,375	\$779,328	\$1,943,700	\$1,687,950	\$148,500	\$1,601,600	\$0	\$977,831	\$54,863
B. Casing Removal and Disposal Costs															
Total # of Wells per Wellfield (In Service)	308	479	652	750	1505	0	510	328	744	682	60	728	0	431	21
# of Previously Abandoned Wells Pending Release	124	100	70	88	121	0	128	11	89	4	0	19	0	0	0
Total # of Wells for Casing Removal and Disposal	432	579	722	838	1626	0	638	339	833	686	60	747	0	431	21
Remove and Dispose Casing (\$/well)	\$33	\$33	\$33	\$33	\$33	\$33	\$33	\$33	\$33	\$33	\$33	\$33	\$33	\$33	\$33
Subtotal Casing Removal and Disposal Costs per Wellfield	\$14,256	\$19,107	\$23,826	\$27,654	\$53,658	\$0	\$21,054	\$11,187	\$27,489	\$22,638	\$1,980	\$24,651	\$0	\$14,223	\$693
Subtotal Well Abandonment Costs per Wellfield	\$437,756	\$1,138,770	\$1,368,576	\$1,780,779	\$1,916,096	\$0	\$1,353,429	\$790,515	\$1,971,189	\$1,710,588	\$150,480	\$1,626,251	\$0	\$992,054	\$55,556
<b>Total Well Abandonment Costs</b>	<b>\$15,292,038</b>														
<b>II. Removal of Contaminated Soil Around Wells</b>															
# of Production and Injection Wells	255	427	587	660	1372	0	451	274	658	590	0	640	0	385	
Removal of Contaminated Soil Around Wells (\$/well)	\$85.46	\$85.46	\$85.46	\$85.46	\$85.46	\$85.46	\$85.46	\$85.46	\$85.46	\$85.46	\$85.46	\$85.46	\$85.46	\$85.46	\$85.46
Subtotal Contaminated Soil Removal/Disposal Costs per Wellfield	\$21,791	\$36,490	\$50,163	\$56,402	\$117,247	\$0	\$38,541	\$23,415	\$56,231	\$50,420	\$0	\$54,692	\$0	\$32,901	
<b>Total Contaminated Soil Removal/Disposal Costs</b>	<b>\$538,293</b>														
<b>III. Delineation Hole Abandonment</b>															
A. Revegetation Contingency															
2011-12 Drilling Program (# holes)	0														
2012-13 Drilling Program (# holes)	594														
Small Site Grading and Seeding (\$/site)	\$55														
Subtotal Revegetation Contingency Costs	\$32,670														
B. Drill Hole Plug and Abandonment															
2013-14 Proposed Drilling Program (# holes)	900														
Average Depth (ft)	900														
Site Location (\$/hole)	\$11														
Hole Abandonment (\$/ft)	\$3.30														
Capping (\$/hole)	\$11														
Small Site Grading and Seeding (\$/site)	\$55														
Subtotal Drill Hole Plug and Abandonment Costs	\$2,742,300														
<b>Total Delineation Hole Abandonment</b>	<b>\$2,774,970</b>														
<b>IV. Waste Disposal Well Abandonment</b>	<b>SR-1</b>	<b>SR-2</b>	<b>SRHUP #6</b>	<b>SRHUP #7</b>	<b>SRHUP #8</b>	<b>SRHUP #10</b>	<b>REY-1</b>	<b>REY-2</b>	<b>REY-3</b>						
A. Well Sealing															
Total Depth of Well	10,097	9,996	9,600	9,900	9,700	9,550	9,950	9,950	9,950						
Sealing Cost Per Foot	\$13.62	\$13.62	\$13.62	\$13.62	\$13.62	\$13.62	\$13.62	\$13.62	\$13.62						
*Sealing costs per foot includes surface reclamation costs															
Subtotal Plugging Costs per Well	\$137,521	\$136,146	\$130,752	\$134,838	\$132,114	\$130,071	\$135,519	\$135,519	\$135,519						
B. Pump Dismantling and Decontamination															
Number of Pumps	2	2	2	2	2	2	2	2	2						
Pump Dismantling and Disposal Cost	\$2,788	\$2,788	\$2,788	\$2,788	\$2,788	\$2,788	\$2,788	\$2,788	\$2,788						
Subtotal Dismantling and Decon Costs per Well	\$5,576.06	\$5,576.06	\$5,576.06	\$5,576.06	\$5,576.06	\$5,576.06	\$5,576.06	\$5,576.06	\$5,576.06						
C. Tubing String Disposal (NRC-Licensed Facility)															
Length of Tubing String (ft)	8,271	8,257	8,910	9,100	8,910	8,800	8,217	8,217	8,217						
Diameter of Tubing String (inches)	2.875	2.875	2.875	2.875	2.875	2.875	2.875	2.875	2.875						
Volume of Tubing String (ft³)	193	192	207	212	207	205	191	191	191						
Transportation and Disposal Unit Cost (\$/ft³)	\$7.32	\$7.32	\$7.32	\$7.32	\$7.32	\$7.32	\$7.32	\$7.32	\$7.32						
Subtotal Tubing String Disposal Costs per Well	\$1,410	\$1,408	\$1,519	\$1,552	\$1,519	\$1,501	\$1,401	\$1,401	\$1,401						
<b>Total Waste Disposal Well Abandonment Costs</b>	<b>\$1,271,295</b>														
<b>TOTAL WELL AND DRILL HOLE ABANDONMENT COSTS</b>	<b>\$19,876,596</b>														



**Cameco Resources**  
**Smith Ranch Uranium Project**  
**2013-14 Surety Estimate Update**

Wellfield Buildings and Equipment Removal and Disposal		Mine Unit 1	Mine Unit 2	Mine Unit 3/Ext	Mine Unit 4/4A	Mine Unit 15	Mine Unit 15A	Mine Unit K	K-North	Mine Unit 9	Mine Unit 10	Mine Unit 10-Ext	Mine Unit 27	Mine Unit 21	Mine Unit 7
<b>I. Wellfield Piping</b>															
Number of Header Houses per Wellfield		6	5	10	11	13	10	9	7	13	9	0	11	0	7
Length of Piping per Header House (ft)		13800	13800	13800	13800	13800	13800	13800	13800	13800	13800	13800	13800	13800	13800
*Based on 46 wells per header house with 300 ft pipeline per well															
Approximate Total Length of Piping (ft)		82800	69000	138000	151800	179400	138000	124200	96600	179400	124200	0	151800	0	96600
A. Removal and Loading															
Wellfield Piping Removal Unit Cost (\$/ft of pipe)		\$1.86	\$1.86	\$1.86	\$1.86	\$1.86	\$1.86	\$1.86	\$1.86	\$1.86	\$1.86	\$1.86	\$1.86	\$1.86	\$1.86
Subtotal Wellfield Piping Removal and Loading Costs		\$153,731	\$128,109	\$256,218	\$281,840	\$333,083	\$256,218	\$230,596	\$179,352	\$333,083	\$230,596	\$0	\$281,840	\$0	\$179,352
B. Transport and Disposal Costs (NRC-Licensed Facility)															
Average Diameter of Piping (inches)		2	2	2	2	2	2	2	2	2	2	2	2	2	2
Chipped Volume Reduction (ft <sup>3</sup> /ft)		0.011	0.011	0.011	0.011	0.011	0.011	0.011	0.011	0.011	0.011	0.011	0.011	0.011	0.011
Chipped Volume per Wellfield (ft <sup>3</sup> )		888	740	1480	1628	1923	1480	1332	1036	1923	1332	0	1628	0	1036
Volume for Disposal Assuming 10% Void Space (ft <sup>3</sup> )		977	814	1628	1790	2116	1628	1465	1139	2116	1465	0	1790	0	1139
Transportation and Disposal Unit Cost (\$/ft <sup>3</sup> )		\$5.77	\$5.77	\$5.77	\$5.77	\$5.77	\$5.77	\$5.77	\$5.77	\$5.77	\$5.77	\$5.77	\$5.77	\$5.77	\$5.77
Subtotal Wellfield Piping Transport and Disposal Costs		\$5,637	\$4,697	\$9,393	\$10,328	\$12,209	\$9,393	\$8,453	\$6,572	\$12,209	\$8,453	\$0	\$10,328	\$0	\$6,572
Subtotal Wellfield Piping Costs per Wellfield		\$159,368	\$132,806	\$265,611	\$292,168	\$345,292	\$265,611	\$239,049	\$185,924	\$345,292	\$239,049	\$0	\$292,168	\$0	\$185,924
<b>Total Wellfield Piping Costs</b>		<b>\$2,948,261</b>													
<b>II. Well Pumps and Tubing</b>															
*Pump and tubing removal costs included under ground water restoration labor															
*60% of production/injection wells contain pumps and/or tubing															
A. Pump and Tubing Transportation and Disposal							Inc in MU-15								
Number of Production Wells		95	164	257	259	477	0	171	99	260	210	0	220	0	135
Number of Injection Wells		160	263	330	401	896	0	280	175	398	380	0	420	0	250
Number of Monitor Wells		52	50	62	90	130	0	59	53	79	91	60	85	0	44
1. Pump Volume															
Number of Production Wells with Pumps		57	98	154	155	286	0	103	59	156	126	0	132	0	81
Pump Volume (ft <sup>3</sup> )		0.43	0.43	0.43	0.43	0.43	0.43	0.43	0.43	0.43	0.43	0.43	0.43	0.43	0.43
Pump Volume per Wellfield (ft <sup>3</sup> )		24.7	42.5	66.7	67.1	123.9	0.0	44.6	25.6	67.6	54.6	0.0	57.2	0.0	35.1
2. Tubing Volume															
Average Tubing Length per Well (ft)		475	825	725	825	425	475	925	839	925	875	875	775	575	800
*Based on average well depth minus 25 ft															
Tubing Length per Wellfield (ft)		145,825	393,525	470,525	618,750	638,350	0	471,750	274,353	681,725	595,875	\$2,500	\$61,875	0	343,200
Diameter of Production Well Fiberglass Tubing (inches)		2	2	2	2	2	2	2	2	2	2	2	2	2	2
Diameter of Injection Well HDPE Tubing (inches)		1.25	1.25	1.25	1.25	1.25	1.25	1.25	1.25	1.25	1.25	1.25	1.25	1.25	1.25
Chipped Volume Reduction (ft <sup>3</sup> /ft)		0.011	0.011	0.011	0.011	0.011	0.011	0.011	0.011	0.011	0.011	0.011	0.011	0.011	0.011
Chipped Volume per Wellfield (ft <sup>3</sup> )		1563	4219	5045	6634	6844	0	5058	2941	7309	6389	563	6024	0	3680
Volume of Pump and Tubing (ft <sup>3</sup> )		1588	4261	5112	6701	6968	0	5103	2967	7377	6444	563	6081	0	3715
Volume for Disposal Assuming Void Space (ft <sup>3</sup> )		1746	4688	5623	7371	7665	0	5613	3263	8114	7088	619	6689	0	4087
Transportation and Disposal Unit Cost (\$/ft <sup>3</sup> )		\$5.77	\$5.77	\$5.77	\$5.77	\$5.77	\$5.77	\$5.77	\$5.77	\$5.77	\$5.77	\$5.77	\$5.77	\$5.77	\$5.77
Subtotal Pump and Tubing Transport and Disposal Costs Per Wellfield		\$10,074	\$27,049	\$32,443	\$42,529	\$44,225	\$0	\$32,386	\$18,827	\$46,816	\$40,896	\$3,571	\$38,594	\$0	\$23,581
<b>Total Pump and Tubing Disposal Costs</b>		<b>\$360,991</b>													
<b>III. Buried Trunkline (Includes \$ for fiber optic cable removal)</b>															
Assumptions:															
Length of Trunkline Trench (ft)		5075	7600	4790	12565	19085	7500	0	17198	11565	9050	0	20000	0	5400
A. Removal and Loading															
Main Pipeline Removal Unit Cost (\$/ft of trench)		\$3.71	\$3.71	\$3.71	\$3.71	\$3.71	\$3.71	\$3.71	\$3.71	\$3.71	\$3.71	\$3.71	\$3.71	\$3.71	\$3.71
Subtotal Trunkline Removal and Loading Costs		\$18,845	\$28,221	\$17,787	\$46,658	\$70,868	\$27,850	\$0	\$63,861	\$42,944	\$33,605	\$0	\$74,266	\$0	\$20,052
B. Transport and Disposal Costs (NRC-Licensed Facility)															
1. 3" HDPE Trunkline															
Piping Length (ft)		5075	7600	4790	12565	0	0	0	0	0	0	0	0	0	0
Chipped Volume per foot of pipe (ft <sup>3</sup> /ft)		0.0233	0.0233	0.0233	0.0233	0.0233	0.0233	0.0233	0.0233	0.0233	0.0233	0.0233	0.0233	0.0233	0.0233
Chipped Volume (ft <sup>3</sup> )		118	177	112	293	0	0	0	0	0	0	0	0	0	0
2. 6" HDPE Trunkline															
Piping Length (ft)		2410	10000	4820	7320	28170	2320	2288	3466	4800	6850	0	6500	0	0
Chipped Volume per foot of pipe (ft <sup>3</sup> /ft)		0.0834	0.0834	0.0834	0.0834	0.0834	0.0834	0.0834	0.0834	0.0834	0.0834	0.0834	0.0834	0.0834	0.0834
Chipped Volume (ft <sup>3</sup> )		201	834	402	610	2349	193	191	289	400	571	0	542	0	0
3. 8" HDPE Trunkline															
Piping Length (ft)		4100	0	1100	4240	4000	6266	1104	948	15980	5000	0	0	0	4000
Chipped Volume per foot of pipe (ft <sup>3</sup> /ft)		0.1413	0.1413	0.1413	0.1413	0.1413	0.1413	0.1413	0.1413	0.1413	0.1413	0.1413	0.1413	0.1413	0.1413
Chipped Volume (ft <sup>3</sup> )		579	0	155	599	565	885	156	134	2258	707	0	0	0	565
4. 10" HDPE Trunkline															
Piping Length (ft)		0	5200	3660	4680	6000	1400	0	1028	2800	2000	0	800	0	2000
Chipped Volume per foot of pipe (ft <sup>3</sup> /ft)		0.2196	0.2196	0.2196	0.2196	0.2196	0.2196	0.2196	0.2196	0.2196	0.2196	0.2196	0.2196	0.2196	0.2196
Chipped Volume (ft <sup>3</sup> )		0	1142	804	1028	1317	307	0	226	615	439	0	176	0	439



**Cameco Resources**  
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Wellfield Buildings and Equipment Removal and Disposal		Mine Unit 1	Mine Unit 2	Mine Unit 3/Ext	Mine Unit 4/4A	Mine Unit 15	Mine Unit 15A	Mine Unit K	K-North	Mine Unit 9	Mine Unit 10	Mine Unit 10-Ext	Mine Unit 27	Mine Unit 21	Mine Unit 7
5. 12" HDPE Trunkline															
Piping Length (ft)		1460	0	0	5270	0	1080	0	2866	4110	0	0	2000	0	0
Chipped Volume per foot of pipe (ft <sup>3</sup> /ft)		0.3088	0.3088	0.3088	0.3088	0.3088	0.3088	0.3088	0.3088	0.3088	0.3088	0.3088	0.3088	0.3088	0.3088
Chipped Volume (ft <sup>3</sup> )		451	0	0	1627	0	333	0	885	1269	0	0	618	0	0
6. 14" HDPE Trunkline															
Piping Length (ft)		740	0	0	0	0	6200	0	0	1830	0	0	0	0	4000
Chipped Volume per foot of pipe (ft <sup>3</sup> /ft)		0.3723	0.3723	0.3723	0.3723	0.3723	0.3723	0.3723	0.3723	0.3723	0.3723	0.3723	0.3723	0.3723	0.3723
Chipped Volume (ft <sup>3</sup> )		276	0	0	0	0	2308	0	0	681	0	0	0	0	1489
7. 16" HDPE Trunkline															
Piping Length (ft)		1440	0	0	3620	0	0	2010	2210	1420	0	0	0	0	0
Chipped Volume per foot of pipe (ft <sup>3</sup> /ft)		0.4864	0.4864	0.4864	0.4864	0.4864	0.4864	0.4864	0.4864	0.4864	0.4864	0.4864	0.4864	0.4864	0.4864
Chipped Volume (ft <sup>3</sup> )		700	0	0	1761	0	0	978	1075	691	0	0	0	0	0
8. 18" HDPE Trunkline															
Piping Length (ft)		0	0	0	0	24170	0	2086	18600	7640	6550	0	25000	0	0
Chipped Volume per foot of pipe (ft <sup>3</sup> /ft)		0.6155	0.6155	0.6155	0.6155	0.6155	0.6155	0.6155	0.6155	0.6155	0.6155	0.6155	0.6155	0.6155	0.6155
Chipped Volume (ft <sup>3</sup> )		0	0	0	0	14877	0	1284	11448	4702	4032	0	15388	0	0
Total Chipped Volume (ft <sup>3</sup> )		2325	2153	1472	5918	19108	4028	2608	14057	10617	5748	0	16723	0	2494
Volume for Disposal Assuming Void Space (ft <sup>3</sup> )		2558	2368	1620	6509	21019	4431	2869	15463	11678	6323	0	18395	0	2743
Transportation and Disposal Unit Cost (\$/ft <sup>3</sup> )		\$5.77	\$5.77	\$5.77	\$5.77	\$5.77	\$5.77	\$5.77	\$5.77	\$5.77	\$5.77	\$5.77	\$5.77	\$5.77	\$5.77
Subtotal Trunkline Transport and Disposal Costs		\$14,759	\$13,663	\$9,347	\$37,555	\$121,275	\$25,566	\$16,553	\$89,218	\$67,379	\$36,482	\$0	\$106,135	\$0	\$15,826
Trunkline Decommissioning Costs per Wellfield		\$33,604	\$41,884	\$27,134	\$84,213	\$192,143	\$53,416	\$16,553	\$153,079	\$110,323	\$70,087	\$0	\$180,401	\$0	\$35,878
<b>Total Trunkline Decommissioning Costs</b>		<b>\$998,715</b>													
<b>IV. Wellhead Cover Removal</b>															
Number of Wells		308	479	652	750	1505	0	510	328	744	682	60	728	0	431
Well Head Removal, Decontamination, and Disposal Cost		\$11.72	\$11.72	\$11.72	\$11.72	\$11.72	\$11.72	\$11.72	\$11.72	\$11.72	\$11.72	\$11.72	\$11.72	\$11.72	\$11.72
Subtotal Wellhead Removal Costs		\$3,610	\$5,614	\$7,642	\$8,791	\$17,640	\$0	\$5,978	\$3,844	\$8,720	\$7,994	\$703	\$8,533	\$0	\$5,052
<b>Total Well Head Removal and Disposal Costs</b>		<b>\$84,120</b>													
<b>V. Header Houses (Includes Booster Stations)</b>															
Booster Houses		0	0	1	1	6	0	3	0	1	0	0	0	0	0
Total Quantity		6	5	11	12	19	10	12	7	14	9	0	11	0	7
Average Header House Volume (ft <sup>3</sup> )		1600	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600
A. Removal															
Total Volume (ft <sup>3</sup> )		9600	8000	17600	19200	30400	16000	19200	11200	22400	14400	0	17600	0	11200
Demolition Cost		\$0.306	\$0.306	\$0.306	\$0.306	\$0.306	\$0.306	\$0.306	\$0.306	\$0.306	\$0.306	\$0.306	\$0.306	\$0.306	\$0.306
Subtotal Building Demolition Costs		\$2,936	\$2,446	\$5,382	\$5,871	\$9,296	\$4,893	\$5,871	\$3,425	\$6,850	\$4,404	\$0	\$5,382	\$0	\$3,425
B. Survey and Decontamination															
Cost per Header House		\$621	\$621	\$621	\$621	\$621	\$621	\$621	\$621	\$621	\$621	\$621	\$621	\$621	\$621
Subtotal Survey and Decontamination Costs		\$3,728	\$3,107	\$6,835	\$7,457	\$11,806	\$6,214	\$7,457	\$4,350	\$8,699	\$5,592	\$0	\$6,835	\$0	\$4,350
C. Disposal															
Total Volume for Disposal - Incl. 33% Factor (cy)		117	98	215	235	372	196	235	137	274	176	0	215	0	137
Volume for Disposal Assuming Void Space (cy)		129	108	237	258	409	215	258	151	301	194	0	237	0	151
Disposal Cost, Landfill (cy)		\$42.17	\$42.17	\$42.17	\$42.17	\$42.17	\$42.17	\$42.17	\$42.17	\$42.17	\$42.17	\$42.17	\$42.17	\$42.17	\$42.17
Subtotal Off-Site County Landfill Disposal Costs		\$5,440	\$4,554	\$9,994	\$10,879	\$17,246	\$9,066	\$10,879	\$6,367	\$12,692	\$8,180	\$0	\$9,994	\$0	\$6,367
Headerhouse Soil Removal Volume (assumes 10'Wx20'Lx2.5'D)		500	500	500	500	500	500	500	500	500	500	500	500	500	500
11c(2) Disposal Cost (ft <sup>3</sup> )		\$5.80	\$5.80	\$5.80	\$5.80	\$5.80	\$5.80	\$5.80	\$5.80	\$5.80	\$5.80	\$5.80	\$5.80	\$5.80	\$5.80
Subtotal 11c(2) Disposal Costs		\$17,414	\$14,512	\$31,926	\$34,829	\$55,146	\$29,024	\$34,829	\$20,317	\$40,634	\$26,122	\$0	\$31,926	\$0	\$20,317
Subtotal Header House Removal and Disposal Costs per Wellfield		\$29,518	\$24,619	\$54,137	\$59,036	\$93,494	\$49,197	\$59,036	\$34,459	\$68,875	\$44,298	\$0	\$54,137	\$0	\$34,459
<b>Total Header House Removal and Disposal Costs</b>		<b>\$605,265</b>													
<b>TOTAL REMOVAL AND DISPOSAL COSTS PER WELLFIELD</b>		<b>\$236,174</b>	<b>\$231,972</b>	<b>\$386,967</b>	<b>\$486,736</b>	<b>\$692,794</b>	<b>\$368,224</b>	<b>\$353,002</b>	<b>\$396,134</b>	<b>\$580,026</b>	<b>\$402,323</b>	<b>\$4,274</b>	<b>\$573,833</b>	<b>\$0</b>	<b>\$284,894</b>
<b>TOTAL WELLFIELD BUILDINGS AND EQUIPMENT REMOVAL</b>		<b>\$4,997,353</b>													



**Cameco Resources  
Smith Ranch Uranium Project  
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Wellfield and Satellite Surface Reclamation			Mine Unit 1	Mine Unit 2	Mine Unit 3/Ext	Mine Unit 4/4A	Mine Unit 15	Mine Unit 15A	Mine Unit K	K-North	Mine Unit 9	Mine Unit 10	Mine Unit 10-Ext	Mine Unit 27	Mine Unit 21
<b>I. Wellfield Pattern Area, and Road Reclamation</b>															
	Area (acres)		50.9	104.3	99.8	125.1	117.3	44.5	83.3	65.4	88.7	99.5	0.0	81.0	0.0
	*Assume wellfield pattern area X 2														
	Discing/Seeding Unit Cost (\$/acre)		\$548	\$548	\$548	\$548	\$548	\$548	\$548	\$548	\$548	\$548	\$548	\$548	\$548
	Subtotal Pattern Area and Road Reclamation Costs		\$27,865	\$57,111	\$54,679	\$68,524	\$64,231	\$24,393	\$45,610	\$35,828	\$48,567	\$54,504	\$0	\$44,361	\$0
	<b>Total Wellfield Area Reclamation Costs</b>		<b>\$563,144</b>												
<b>II. Wellfield Road Reclamation</b>															
	Road Construction														
	Length of Wellfield Roads (1000 ft)		6.2	10.1	11.2	92.4	19.8	13.6	9.6	2.8	12.7	16.2	0	16.2	0
	Wellfield Road Reclamation Unit Cost (\$/1000 ft)		\$1,416	\$1,416	\$1,416	\$1,416	\$1,416	\$1,416	\$1,416	\$1,416	\$1,416	\$1,416	\$1,416	\$1,416	\$1,416
	Subtotal Wellfield Road Reclamation Costs		\$8,781	\$14,305	\$15,863	\$130,867	\$28,043	\$19,262	\$13,597	\$3,966	\$17,987	\$22,944	\$0	\$22,944	\$0
	<b>Total Wellfield Road Reclamation Costs</b>		<b>\$252,671</b>												
<b>III. Laydown area reclamation</b>															
	Area of Disturbance (acres)		1	1	2	2	1	1	2	2	1	1	1	1	1
	Average Depth of Stripped Topsoil (ft)		0.67	0.67	0.67	0.67	0.67	0.67	0.67	0.67	0.67	0.67	0.67	0.67	0.67
	Surface Grade: Level Ground														
	Average Length of Topsoil Haul (ft)		500	500	500	500	500	500	500	500	500	500	500	500	500
A.	Ripping Overburden with Dozer														
	Ripping Cost (per acre)		\$1,331	\$1,331	\$1,331	\$1,331	\$1,331	\$1,331	\$1,331	\$1,331	\$1,331	\$1,331	\$1,331	\$1,331	\$1,331
	Subtotal Ripping Costs		\$1,331	\$1,331	\$2,661	\$2,661	\$1,331	\$1,331	\$1,996	\$1,996	\$1,331	\$1,331	\$1,331	\$1,331	\$1,331
B.	Topsoil Application with Scraper														
	Volume of Topsoil Removed (cy)		1,081	1,081	2,162	2,162	1,081	1,081	1,621	1,621	1,081	1,081	1,081	1,081	1,081
	Moving Materials (0% Grade)		\$1.19	\$1.19	\$1.19	\$1.19	\$1.19	\$1.19	\$1.19	\$1.19	\$1.19	\$1.19	\$1.19	\$1.19	\$1.19
	Subtotal Topsoil Application Costs		\$1,284	\$1,284	\$2,568	\$2,568	\$1,284	\$1,284	\$1,926	\$1,926	\$1,284	\$1,284	\$1,284	\$1,284	\$1,284
C.	Discing and Seeding														
	Discing/Seeding Unit Cost (\$/acre)		\$548	\$548	\$548	\$548	\$548	\$548	\$548	\$548	\$548	\$548	\$548	\$548	\$548
	Subtotal Discing/Seeding Costs		\$548	\$548	\$1,095	\$1,095	\$548	\$548	\$822	\$822	\$548	\$548	\$548	\$548	\$548
	Subtotal Surface Reclamation Costs per WF laydown area		\$3,163	\$3,163	\$6,324	\$6,324	\$3,163	\$3,163	\$4,744	\$4,744	\$3,163	\$3,163	\$3,163	\$3,163	\$3,163
	Total Wellfield Laydown Area Reclamation Costs		\$53,766												
	<b>SUBTOTAL SURFACE RECLAMATION COSTS PER WELLFIELD</b>		<b>\$39,809</b>	<b>\$74,579</b>	<b>\$76,866</b>	<b>\$205,715</b>	<b>\$95,437</b>	<b>\$46,818</b>	<b>\$63,951</b>	<b>\$44,538</b>	<b>\$69,717</b>	<b>\$80,611</b>	<b>\$3,163</b>	<b>\$70,468</b>	<b>\$3,163</b>
	<b>TOTAL WELLFIELD SURFACE RECLAMATION COSTS</b>		<b>\$869,581</b>												
<b>IV. Fence Removal</b>															
	Length of Fencing (ft)		16,487	11,580	7,388	25,047	7,074	0	23,271	23,271	21,887	21,595	0	19,732	0
	Fence Removal Costs		\$0.35	\$0.35	\$0.35	\$0.35	\$0.35	\$0.35	\$0.35	\$0.35	\$0.35	\$0.35	\$0.35	\$0.35	\$0.35
	Subtotal Fence Removal Costs per Wellfield		\$5,803	\$4,076	\$2,601	\$8,817	\$2,490	\$0	\$8,191	\$8,191	\$7,704	\$7,601	\$0	\$6,946	\$0
	<b>Total Fence Removal Costs</b>		<b>\$65,474</b>												
<b>V. Satellite Area Reclamation</b>			<b>SR-1</b>	<b>SR-2</b>	<b>REY</b>										
	Assumptions:														
	Area of Disturbance (acres)		2.70	5.00	5.00										
	Average Depth of Stripped Topsoil (ft)		1	1	1										
	Surface Grade: Level Ground														
	Average Length of Topsoil Haul (ft)		1000	500	500										
A.	Ripping Overburden with Dozer														
	Ripping Cost (per acre)		\$1,330.59	\$1,330.59	\$1,330.59										
	Subtotal Ripping Costs		\$3,593	\$6,653	\$6,653										
B.	Topsoil Application with Scraper														
	Volume of Topsoil Removed (cy)		4356	8067	8067										
	Moving Materials (0% Grade)		\$1.42	\$1.42	\$1.42										
	Subtotal Topsoil Application Costs		\$6,176	\$11,438	\$11,438										
C.	Discing and Seeding														
	Discing/Seeding Unit Cost (\$/acre)		\$548	\$548	\$548										
	Subtotal Discing/Seeding Costs		\$1,479	\$2,738	\$2,738										
	Subtotal Surface Reclamation Costs per Location		\$11,248	\$20,829	\$20,829										
	<b>Total Satellite Building Area Reclamation Costs</b>		<b>\$52,906</b>												
	<b>TOTAL WELLFIELD AND SATELLITE SURFACE RECLAMATION COSTS</b>		<b>\$987,961</b>												

**Cameco Resources  
Smith Ranch Uranium Project  
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Equipment Removal and Loading			CPP IX Plant	Central Plant	Dryer Building	Satellite SR-1	Pilot ISL	Pumphouse	Bone Yard	Satellite SR-2	Satellite Reynolds
I.	Removal and Loading Costs										
A.	Tankage										
		Number of Tanks	14	51	0	14	15	3	3	10	10
		Volume of Tank Construction Material (ft³)	900	1340	300	560	260	164	164	397	397
		Tank Removal Cost	\$144.12	\$144.12	\$144.12	\$144.12	\$144.12	\$144.12	\$144.12	\$144.12	\$144.12
	Subtotal Tankage Removal and Loading Costs		\$129,709	\$193,122	\$43,236	\$80,708	\$37,471	\$23,636	\$23,636	\$57,144	\$57,216
B.	PVC/Steel Pipe										
		PVC Pipe Footage	4800	5000	0	6000	1500	0	0	4000	4000
		Average PVC Pipe Diameter (inches)	3	3	3	3	3	3	0	3	3
		Shredded PVC Pipe Volume Reduction (ft3/ft)	0.023	0.023	0.023	0.023	0.023	0.023	0.023	0.023	0.023
		Volume of Shredded PVC Pipe (ft³)	112	116	0	140	35	0	0	93	93
		Steel Pipe Footage	1100	0	0	0	0	80	0	0	0
		Average Steel Pipe Diameter (inches)	6	0	0	0	0	8	0	0	0
		Volume (ft³)	216	0	0	0	0	30	0	0	0
		Pipe Removal Cost	\$8.93	\$8.93	\$8.93	\$8.93	\$8.93	\$8.93	\$8.93	\$8.93	\$8.93
	Subtotal PVC/Steel Pipe Removal and Loading Costs		\$52,682	\$44,646	\$0	\$53,575	\$13,394	\$714	\$0	\$35,717	\$35,717
C.	Pumps										
		Number of Pumps	22	43	0	16	12	2	0	13	13
		Average Volume (ft³/pump)	4.93	4.93	0	4.93	4.93	4.93	4.93	4.93	4.93
		Volume of Pumps (ft³)	108	212	0	79	59	10	0	64	64
		Pump Removal Cost	\$108	\$108	\$108	\$108	\$108	\$108	\$108	\$108	\$108
	Subtotal Pump Removal and Loading Costs		\$11,678.69	\$22,924.83	\$0.00	\$8,542.74	\$6,380.02	\$1,081.36	\$0.00	\$6,920.70	\$6,920.70
D.	Dryer										
		Dryer Volume (ft³)	0	0	1,000	0	0	0	0	0	0
		Dryer Removal Costs	\$14.71	\$14.71	\$14.71	\$14.71	\$14.71	\$14.71	\$14.71	\$14.71	\$14.71
	Subtotal Dryer Dismantling and Loading Cost		\$0	\$0	\$14,709	\$0	\$0	\$0	\$0	\$0	\$0
E.	RO Units										
		Number of RO Units (500 gpm)									
		Current	0	1	0	1	0	0	0	0.25	0
		Planned	0	0	0	0	0	0	0	1	1
		Number of Degasser Units									
		Current	0	0	0	1	0	0	0	0	0
		Planned	0	1	0	0	0	0	0	1	1
		RO/Degasser Average Volume (ft3/Unit)	250	250	250	250	250	250	250	250	250
		RO and Degasser Removal Cost	\$5.02	\$257.60	\$257.60	\$257.60	\$257.60	\$257.60	\$257.60	\$257.60	\$257.60
	Subtotal RO Unit Removal and Loading Costs		\$0.00	\$128,800.00	\$0.00	\$128,800.00	\$0.00	\$0.00	\$0.00	\$144,900.00	\$128,800.00
	Subtotal Equipment Removal and Loading Costs per Facility		\$194,069	\$389,492	\$57,945	\$271,625	\$57,245	\$25,431	\$23,636	\$244,681	\$228,653
Total Equipment Removal and Loading Costs			\$1,492,779								
II.	Transportation and Disposal Costs (NRC-Licensed Facility)										
A.	Tankage										
		Volume of Tank Construction Material (ft³)	900	1340	300	560	260	164	164	397	397
		Volume for Disposal Assuming Void Space (ft³)	990	1474	330	616	286	180	180	436	437
		Transportation and Disposal Unit Cost (\$/ft3)	\$7.32	\$7.32	\$7.32	\$7.32	\$7.32	\$7.32	\$7.32	\$7.32	\$7.32
	Subtotal Tankage Transportation and Disposal Costs		\$7,250	\$10,795	\$2,417	\$4,511	\$2,095	\$1,318	\$1,318	\$3,193	\$3,200
B.	PVC / Steel Pipe										



**Cameco Resources  
Smith Ranch Uranium Project  
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Equipment Removal and Loading				CPP IX Plant	Central Plant	Dryer Building	Satellite SR-1	Pilot ISL	Pumphouse	Bone Yard	Satellite SR-2	Satellite Reynolds
	Volume of Shredded PVC Pipe (ft <sup>3</sup> )			111.8	116.4	0.0	139.7	34.9	0.0	0.0	93.1	93.1
	Volume for Disposal Assuming Void Space (ft <sup>3</sup> )			123	128	0	154	38	0	0	102	102
	Volume of Steel Pipe (ft <sup>3</sup> )			216	0	0	0	0	30	0	0	0
	Volume for Disposal Assuming Void Space (ft <sup>3</sup> )			238	0	0	0	0	33	0	0	0
	<u>Transportation and Disposal Unit Cost (\$/ft<sup>3</sup>)</u>			\$5.77	\$5.77	\$5.77	\$5.77	\$5.77	\$5.77	\$5.77	\$5.77	\$5.77
	Subtotal PVC Pipe Transportation and Disposal Costs			\$2,083	\$739	\$0	\$889	\$219	\$190	\$0	\$589	\$589
C.	Pumps											
	Volume of Pumps (ft <sup>3</sup> )			108	212	0	79	59	10	0	64	64
	Volume for Disposal Assuming Void Space (ft <sup>3</sup> )			119	233	0	87	65	11	0	70	70
	<u>Transportation and Disposal Unit Cost (\$/ft<sup>3</sup>)</u>			\$7.32	\$7.32	\$7.32	\$7.32	\$7.32	\$7.32	\$7.32	\$7.32	\$7.32
	Subtotal Pump Transportation and Disposal Costs			\$871	\$1,706	\$0	\$637	\$476	\$81	\$0	\$513	\$513
D.	Dryer											
	Dryer Volume (ft <sup>3</sup> )			0	0	1000	0	0	0	0	0	0
	Volume for Disposal Assuming Dryer Remains Intact (ft <sup>3</sup> )			0	0	1000	0	0	0	0	0	0
	<u>Transportation and Disposal Unit Cost (\$/ft<sup>3</sup>)</u>			\$7.32	\$7.32	\$7.32	\$7.32	\$7.32	\$7.32	\$7.32	\$7.32	\$7.32
	Total Dryer Transportation and Disposal Costs			\$0	\$0	\$7,323	\$0	\$0	\$0	\$0	\$0	\$0
E.	RO/Degasser Units											
	Volume of RO Units (ft <sup>3</sup> )			0	500	0	500	0	0	0	562.5	500
	Volume for Disposal Assuming Volume Reduction (ft <sup>3</sup> )			0	550	0	550	0	0	0	618.75	550
	<u>Transportation and Disposal Unit Costs</u>			\$7.32	\$7.32	\$7.32	\$7.32	\$7.32	\$7.32	\$7.32	\$7.32	\$7.32
	Subtotal RO Unit Transportation and Disposal Costs			\$0	\$4,028	\$0	\$4,028	\$0	\$0	\$0	\$4,531	\$4,028
	Subtotal Equipment Transportation and Disposal Costs per Facility			\$10,204	\$17,268	\$9,740	\$10,065	\$2,790	\$1,589	\$1,318	\$8,826	\$8,330
<b>Total Equipment Transportation and Disposal Costs</b>				<b>\$70,130</b>								
III.	Health and Safety Costs											
	Radiation Safety Equipment		Accounted for on GW REST									
	<b>Total Health and Safety Costs</b>											
<b>SUBTOTAL EQUIPMENT REMOVAL AND DISPOSAL COSTS PER FACILITY</b>				<b>\$204,273</b>	<b>\$406,760</b>	<b>\$67,685</b>	<b>\$281,690</b>	<b>\$60,035</b>	<b>\$27,020</b>	<b>\$24,954</b>	<b>\$253,508</b>	<b>\$236,983</b>
<b>TOTAL EQUIPMENT REMOVAL AND DISPOSAL COSTS</b>				<b>\$1,562,909</b>								

**Cameco Resources  
Smith Ranch Uranium Project  
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		CPP IX Plant	Central Plant	Dryer Building	Office Building	Storage Building	Water Treat Plant	Shop Building	Pilot ISL Building	Fresh Water Pumphouse	CPP O2 Pad	CPP Fuel Area	Mine Unit 15 O2 Pad	DDW 1 Buildings 15x30	DDW SRHUP #10 Buildings 20x24
<b>Building Demolition and Disposal</b>															
<b>I. Decontamination Costs</b>															
A.	Wall Decontamination														
	Area to be Decontaminated (ft <sup>2</sup> )	10,810	15,900	9,600	0	1,152	576	4,826	12,000	0	0	0	0	720	704
	HCl Acid Wash, including labor (\$/ft <sup>2</sup> )	\$0.94	\$0.94	\$0.94	\$0.94	\$0.94	\$0.94	\$0.94	\$0.94	\$0.94	\$0.94	\$0.94	\$0.94	\$0.94	\$0.94
	Subtotal Wall Decontamination Costs	\$10,199	\$15,002	\$9,058	\$0	\$1,087	\$543	\$4,553	\$11,322	\$0	\$0	\$0	\$0	\$679	\$664
B.	Concrete Floor Decontamination														
	Area to be Decontaminated (ft <sup>2</sup> )	11,550	16,500	3,500	0	1,678	839	7,028	17,477	0	0	0	0	450	480
	HCl Acid Wash, including labor (\$/ft <sup>2</sup> )	\$0.53	\$0.53	\$0.53	\$0.53	\$0.53	\$0.53	\$0.53	\$0.53	\$0.53	\$0.53	\$0.53	\$0.53	\$0.53	\$0.53
	Subtotal Concrete Floor Decontamination Costs	\$6,066	\$8,665	\$1,838	\$0	\$881	\$441	\$3,691	\$9,178	\$0	\$0	\$0	\$0	\$236	\$252
C.	Deep Well Injection Costs														
	Total kgal for Injection (1 gal used per ft <sup>2</sup> )	22.36	32.4	13.1	0	2.83	1.415	11.854	29.477	0	0	0	0	1.17	1.184
	Deep Well Injection Unit Cost (\$/kgals)	\$1.06	\$1.06	\$1.06	\$1.06	\$1.06	\$1.06	\$1.06	\$1.06	\$1.06	\$1.06	\$1.06	\$1.06	\$1.06	\$1.06
	Subtotal Deep Well Injection Costs	\$24	\$34	\$14	\$0	\$3	\$1	\$13	\$31	\$0	\$0	\$0	\$0	\$1	\$1
	Subtotal Decontamination Costs per Building	\$16,289	\$23,701	\$10,910	\$0	\$1,971	\$985	\$8,257	\$20,531	\$0	\$0	\$0	\$0	\$916	\$917
	<b>Total Decontamination Costs</b>	<b>\$113,517</b>													
<b>II. Demolition Costs</b>															
A.	Building														
	Height of Building (ft)	30	35	35	15	10	10	25	18	10	0	0	0	8	10
	Volume of Building (ft <sup>3</sup> )	346,500	577,500	122,500	120,000	16,780	8,390	175,700	314,586	8,320	0	0	0	3600	4800
	Demolition Cost	\$0.31	\$0.31	\$0.31	\$0.31	\$0.31	\$0.31	\$0.31	\$0.31	\$0.31	\$0.31	\$0.31	\$0.31	\$0.31	\$0.31
	Subtotal Building Demolition Costs	\$105,960	\$176,600	\$37,461	\$36,696	\$5,131	\$2,566	\$53,729	\$96,200	\$2,544	\$0	\$0	\$0	\$1,101	\$1,468
B.	Concrete Floor														
	Area of Concrete Floor (ft <sup>2</sup> )	11,550	16,500	3,500	8,000	1,678	839	7,028	17,477	832	400	375	400	450	480
	Demolition Cost	\$5.84	\$5.84	\$5.84	\$5.84	\$5.84	\$5.84	\$5.84	\$5.84	\$5.84	\$5.84	\$5.84	\$5.84	\$5.84	\$5.84
	Subtotal Concrete Floor Demolition Costs	\$67,464	\$96,377	\$20,444	\$46,728	\$9,801	\$4,901	\$41,051	\$102,083	\$4,860	\$2,336	\$2,190	\$2,336	\$2,628	\$2,804
C.	Concrete Footing														
	Length of Concrete Footing (ft)	430	514	237	358	164	116	335	529	115	80	77	80	85	88
	Demolition Cost	\$21.76	\$21.76	\$21.76	\$21.76	\$21.76	\$21.76	\$21.76	\$21.76	\$21.76	\$21.76	\$21.76	\$21.76	\$21.76	\$21.76
	Subtotal Concrete Footing Demolition Costs	\$9,353	\$11,179	\$5,149	\$7,784	\$3,565	\$2,521	\$7,296	\$11,506	\$2,510	\$1,741	\$1,685	\$1,741	\$1,846	\$1,907
	Subtotal Demolition Costs per Building	\$182,777	\$284,156	\$63,054	\$91,208	\$18,497	\$9,988	\$102,076	\$209,789	\$9,914	\$4,077	\$3,875	\$4,077	\$5,575	\$6,179
	<b>Total Demolition Costs</b>	<b>\$1,921,408</b>													
<b>III. Disposal Costs</b>															
A.	Building														
	Volume of Building (cy)	12833	21389	4537	4444	621	311	6507	11651	308	0	0	0	133	178
	Off-site County Facility														
	Percentage (%)	100	100	100	100	100	100	100	100	100	100	100	100	100	100
	Total Volume for Disposal - Incl. 33% Factor (cy)														
	Volume for Disposal (cubic yards)	4235	7058	1497	1467	205	103	2147	3845	102	0	0	0	44	59
	Disposal Unit Cost (\$/cy)	\$42.17	\$42.17	\$42.17	\$42.17	\$42.17	\$42.17	\$42.17	\$42.17	\$42.17	\$42.17	\$42.17	\$42.17	\$42.17	\$42.17
	Subtotal county facility off-site Disposal Costs	\$178,576	\$297,626	\$63,133	\$61,844	\$8,648	\$4,324	\$90,551	\$162,128	\$4,288	\$0	\$0	\$0	\$1,855	\$2,474
B.	Concrete Floor														
	Area of Concrete Floor (ft <sup>2</sup> )	11,550	16,500	3,500	8,000	1,678	839	7,028	17,477	832	400	375	400	450	480
	Average Thickness of Concrete Floor (ft)	0.75	0.75	0.75	0.75	0.75	0.75	0.75	0.75	0.75	0.75	0.75	0.75	0.75	0.75
	Volume of Concrete Floor (ft <sup>3</sup> )	8662.5	12375	2625	6000	1258.5	629.25	5271	13107.75	624	300	281.25	300	337.5	360
	Volume of Concrete Floor (cy)	321	458	97	222	47	23	195	485	23	11	10	11	13	13
1.	Off-site County disposal														
	Percentage (%)	75	75	75	100	100	100	100	75	100	100	100	100	75	75
	Volume for Disposal (cy)	241	344	73	222	47	23	195	364	23	11	10	11	9	10
	Disposal Unit Cost (\$/cy)	\$42.17	\$42.17	\$42.17	\$42.17	\$42.17	\$42.17	\$42.17	\$42.17	\$42.17	\$42.17	\$42.17	\$42.17	\$42.17	\$42.17
	Subtotal county facility off-site Disposal Costs	\$10,146	\$14,495	\$3,075	\$9,370	\$1,965	\$983	\$8,232	\$15,353	\$975	\$469	\$439	\$469	\$395	\$422
2.	NRC-Licensed Facility														
	Percentage (%)	25	25	25	0	0	0	0	25	0	0	0	0	25	25
	Volume for Disposal (ft <sup>3</sup> )	2166	3094	656	0	0	0	0	3277	0	0	0	0	84	90
	Transportation and Disposal Unit Cost (\$/ft <sup>3</sup> )	\$5.80	\$5.80	\$5.80	\$5.80	\$5.80	\$5.80	\$5.80	\$5.80	\$5.80	\$5.80	\$5.80	\$5.80	\$5.80	\$5.80
	Subtotal NRC-Licensed Facility Disposal Costs	\$12,571	\$17,959	\$3,809	\$0	\$0	\$0	\$0	\$19,022	\$0	\$0	\$0	\$0	\$490	\$522
	Subtotal Concrete Floor Disposal Costs	\$22,717	\$32,454	\$6,884	\$9,370	\$1,965	\$983	\$8,232	\$34,375	\$975	\$469	\$439	\$469	\$885	\$944
C.	Concrete Footing														
	Length of Concrete Footing (ft)	430	514	237	358	164	116	335	529	115	80	77	80	85	88
	Average Depth of Concrete Footing (ft)	4	4	4	4	4	4	4	4	4	4	4	4	4	4



**Cameco Resources  
Smith Ranch Uranium Project  
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	DDW REY-1 Buildings 20x24	DDW WellHead Buildings 9 ea 8x8	Satellite SR-1 160X120	Yellowcake Warehouse	Satellite SR-2 160X120	Satellite Reynolds 160X120	Construction Shop 50X80	CPP Lab Addition 25X40	DDW SRHUP #7 Buildings 20x24	DDW SRHUP #8 Buildings 20x24
<b>Building Demolition and Disposal</b>										
<b>I. Decontamination Costs</b>										
A. Wall Decontamination										
Area to be Decontaminated (ft <sup>2</sup> )	704	0	0	3100	0	0	0	1300	704	704
HCl Acid Wash, including labor (\$/ft <sup>2</sup> )	\$0.94	\$0.94	\$0.94	\$0.94	\$0.94	\$0.94	\$0.94	\$0.94	\$0.94	\$0.94
Subtotal Wall Decontamination Costs	\$664	\$0	\$0	\$2,925	\$0	\$0	\$0	\$1,227	\$664	\$664
B. Concrete Floor Decontamination										
Area to be Decontaminated (ft <sup>2</sup> )	392	0	19200	2750	19200	0	0	1000	480	480
HCl Acid Wash, including labor (\$/ft <sup>2</sup> )	\$0.53	\$0.53	\$0.53	\$0.53	\$0.53	\$0.53	\$0.53	\$0.53	\$0.53	\$0.53
Subtotal Concrete Floor Decontamination Costs	\$206	\$0	\$10,083	\$1,444	\$10,083	\$0	\$0	\$525	\$252	\$252
C. Deep Well Injection Costs										
Total kgal for Injection (1 gal used per ft <sup>2</sup> )	1.096	0	19.2	5.85	19.2	0	0	2.3	1.184	1.184
Deep Well Injection Unit Cost (\$/kgals)	\$1.06	\$1.06	\$1.06	\$1.06	\$1.06	\$1.06	\$1.06	\$1.06	\$1.06	\$1.06
Subtotal Deep Well Injection Costs	\$1	\$0	\$20	\$6	\$20	\$0	\$0	\$2	\$1	\$1
Subtotal Decontamination Costs per Building	\$871	\$0	\$10,103	\$4,375	\$10,103	\$0	\$0	\$1,754	\$917	\$917
<b>Total Decontamination Costs</b>										
<b>II. Demolition Costs</b>										
A. Building										
Height of Building (ft)	10	10	24	20	24	24	20	25	10	10
Volume of Building (ft <sup>3</sup> )	3920	5760	460,800	55,000	460,800	460,800	80,000	25,000	4800	4800
Demolition Cost	\$0.31	\$0.31	\$0.31	\$0.31	\$0.31	\$0.31	\$0.31	\$0.31	\$0.31	\$0.31
Subtotal Building Demolition Costs	\$1,199	\$1,761	\$140,913	\$16,819	\$140,913	\$140,913	\$24,464	\$7,645	\$1,468	\$1,468
B. Concrete Floor										
Area of Concrete Floor (ft <sup>2</sup> )	392	448	19,200	2,750	19,200	19,200	4,000	1,000	480	480
Demolition Cost	\$5.84	\$5.84	\$5.84	\$5.84	\$5.84	\$5.84	\$5.84	\$5.84	\$5.84	\$5.84
Subtotal Concrete Floor Demolition Costs	\$2,290	\$2,617	\$112,147	\$16,063	\$112,147	\$112,147	\$23,364	\$5,841	\$2,804	\$2,804
C. Concrete Footing										
Length of Concrete Footing (ft)	79	85	554	210	554	554	253	126	88	88
Demolition Cost	\$21.76	\$21.76	\$21.76	\$21.76	\$21.76	\$21.76	\$21.76	\$21.76	\$21.76	\$21.76
Subtotal Concrete Footing Demolition Costs	\$1,723	\$1,842	\$12,060	\$4,564	\$12,060	\$12,060	\$5,504	\$2,752	\$1,907	\$1,907
Subtotal Demolition Costs per Building	\$5,212	\$6,220	\$265,120	\$37,446	\$265,120	\$265,120	\$53,332	\$16,238	\$6,179	\$6,179
<b>Total Demolition Costs</b>										
<b>III. Disposal Costs</b>										
A. Building										
Volume of Building (cy)	145	213	17067	2037	17067	17067	2963	926	178	178
Off-site County Facility										
Percentage (%)	100	100	100	100	100	100	100	100	100	100
Total Volume for Disposal - Incl. 33% Factor (cy)										
Volume for Disposal (cubic yards)	48	70	5632	672	5632	5632	978	306	59	59
Disposal Unit Cost (\$/cy)	\$42.17	\$42.17	\$42.17	\$42.17	\$42.17	\$42.17	\$42.17	\$42.17	\$42.17	\$42.17
Subtotal county facility off-Site Disposal Costs	\$2,020	\$2,969	\$237,483	\$28,345	\$237,483	\$237,483	\$41,230	\$12,884	\$2,474	\$2,474
B. Concrete Floor										
Area of Concrete Floor (ft <sup>2</sup> )	392	448	19,200	2,750	19,200	19,200	4,000	1,000	480	480
Average Thickness of Concrete Floor (ft)	0.75	0.75	0.75	0.75	0.75	0.75	0.75	0.75	0.75	0.75
Volume of Concrete Floor (ft <sup>3</sup> )	294	336	14400	2062.5	14400	14400	3000	750	360	360
Volume of Concrete Floor (cy)	11	12	533	76	533	533	111	28	13	13
1. Off-site County disposal										
Percentage (%)	75	100	75	75	75	75	100	90	75	75
Volume for Disposal (cy)	8	12	400	57	400	400	111	25	10	10
Disposal Unit Cost (\$/cy)	\$42.17	\$42.17	\$42.17	\$42.17	\$42.17	\$42.17	\$42.17	\$42.17	\$42.17	\$42.17
Subtotal county facility off-Site Disposal Costs	\$344	\$525	\$16,867	\$2,416	\$16,867	\$16,867	\$4,685	\$1,054	\$422	\$422
2. NRC-Licensed Facility										
Percentage (%)	25	0	25	25	25	25	0	10	25	25
Volume for Disposal (ft <sup>3</sup> )	74	0	3600	516	3600	3600	0	75	90	90
Transportation and Disposal Unit Cost (\$/ft <sup>3</sup> )	\$5.80	\$5.80	\$5.80	\$5.80	\$5.80	\$5.80	\$5.80	\$5.80	\$5.80	\$5.80
Subtotal NRC-Licensed Facility Disposal Costs	\$427	\$0	\$20,897	\$2,993	\$20,897	\$20,897	\$0	\$435	\$522	\$522
Subtotal Concrete Floor Disposal Costs	\$771	\$525	\$37,764	\$5,409	\$37,764	\$37,764	\$4,685	\$1,489	\$944	\$944
C. Concrete Footing										
Length of Concrete Footing (ft)	79	85	554	210	554	554	253	126	88	88
Average Depth of Concrete Footing (ft)	4	4	4	4	4	4	4	4	4	4



**Cameco Resources  
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Miscellaneous Reclamation										
I. CPP/Office Area/Pilot Plant/Maint. Shop/Chem. Storage/Yard Reclamation										
Concrete Pad= 0.3 acres										
Total Area = 10.57 acres										
A. Concrete Pad										
Area of Concrete Pad (ft²)										
13068										
Demolition Cost										
\$5.84										
Average Thickness of Concrete Floor (ft)										
0.50										
Volume of Concrete Floor (ft³)										
6,534										
Volume of Concrete Floor (cy)										
242										
Concrete Disposal On Site (\$/cy)										
\$9.08										
Subtotal Concrete Pad Demolition and Disposal Costs										
\$78,526										
B. Gravel Road Base Removal										
Average haul distance (ft)										
1000										
Gravel Road Base Area (acres)										
8.0										
Average Road Base Depth (ft)										
0.5										
Volume of Road Base (cy)										
6453										
Moving Materials										
\$1.42										
Subtotal Gravel Road Base Removal Costs										
\$9,150										
C. Ripping Overburden with Dozer										
Overburden Surface Area (acres)										
10.6										
Ripping Cost (per acre)										
\$1,330.59										
Subtotal Ripping Overburden Costs										
\$14,064										
D. Topsoil Application										
Area of surface disturbance (ft²)										
460426										
Average thickness of topsoil (ft)										
0.5										
Average haul distance (ft)										
2000										
Surface grade (%)										
8,526										
Volume of Topsoil (cy)										
1.42										
Moving Materials										
\$12,090										
Subtotal Topsoil Application Costs										
\$5,789										
E. Discing/Seeding										
Surface Area (acres)										
10.57										
Discing/Seeding Unit Cost (\$/acre)										
\$548										
Subtotal Discing/Seeding Costs										
\$5,789										
Total CPP/Office/Yard Area Reclamation										
\$119,619										
II. Access Road Reclamation (includes culverts)										
CPP Access Rd. CPP to SAT 3 Access to WF MU-15 Access SR2 Access Reynolds Access Access SRHUP 7 Access SRHUP 8 Access SRHUP 10 from MU-4										
A. Assumptions										
Surface grade										
1%										
Length of Road (ft)										
5,173										
Width of Road (ft)										
40										
Area of road (acres)										
4.8										
B. Ripping and Hauling Asphalt										
Assumptions										
Average Haul Distance (feet)										
500										
Average Thickness of Asphalt (ft)										
0.5										
Ripping Cost (per acre)										
\$969.18										
Volume of Asphalt (cy)										
3832										
Moving Materials										
\$1.84										
Subtotal Ripping and Hauling Asphalt										
\$11,647										
B. Gravel Road Base Removal										
Average haul distance (ft)										
1000										
Gravel Road Base Width (ft)										
30										
Gravel Road Base Area (acres)										
3.56										
Average Road Base Depth (ft)										
0.75										
Volume of Road Base (cy)										
4311										
Moving Materials										
\$1.42										
Subtotal Gravel Road Base Removal Costs										
\$6,112										
C. Ripping Overburden with Dozer										
Overburden Surface Area (acres)										
4.8										
Ripping Cost (per Acre)										
\$1,330.59										
Subtotal Ripping Overburden Costs										
\$6,321										
D. Tonsol Application										



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<b>Miscellaneous Reclamation</b>											
Average haul distance (ft)	1500	1500	1500	1500	1500	1500	1500	1500	1500	1500	
Topsoil Surface Area (ft <sup>2</sup> )	206920	474810	217798	316800	255000	75000	30000	225000	50000		
Depth of Topsoil (ft)	0.3058	0.3058	0.3058	0.3058	0.3058	0.3058	0.3058	0.3058	0.3058		
Volume of Topsoil (cy)	2344	5378	2467	3588	2888	849	340	2548	566		
Moving Materials	\$1.42	\$1.42	\$1.42	\$1.42	\$1.42	\$1.42	\$1.42	\$1.42	\$1.42		
Subtotal Topsoil Application Costs	\$3,323	\$7,625	\$3,498	\$5,088	\$4,095	\$1,204	\$482	\$3,613	\$803		
E. Discing/Seeding											
Surface Area (acres)	4.8	10.9	5.0	7.3	5.9	1.7	0.7	5.2	1.1		
Discing/Seeding Unit Cost (\$/acre)	\$548	\$548	\$548	\$548	\$548	\$548	\$548	\$548	\$548		
Subtotal Discing/Seeding Costs	\$2,602	\$5,970	\$2,738	\$3,983	\$3,206	\$943	\$377	\$2,829	\$629		
Multiplier for Projected Additions	0	0	1	0	0	0	0	0	0		
Subtotal Reclamation Costs per Access Road	\$30,005	\$63,137	\$58,467	\$42,126	\$33,907	\$8,660	\$3,464	\$25,980	\$5,773		
<b>Total Access Road Reclamation Costs</b>	<b>\$271,519</b>										
<b>III. Trunk Lines</b>											
	Trunk Line #1 (CPP to MU-4)	Trunk Line #2 (CPP to SR-1)	Trunk Line #3 (MU-15 to SR-1) Included in MU 15 WF REC	Trunk Line #4 (O-Sand Pilot)	Trunk Line (SR-2 to CPP)	WF 4 to CPP - projected	Waste Transfer SR2 to MU-15	Waste Transfer SR2 to SRHUP 8	Waste Transfer SR1 to SRHUP 7	SR to HUP DDW Pipeline	
Length of Trench (ft)	7750	8500	0	5500	2500	10000	12000	10000	7000	9700	
A. Removal and Loading											
Main Pipeline Removal Unit Cost (\$/ft of trench)	\$3.71	\$3.71	\$3.71	\$3.71	\$3.71	\$3.71	\$3.71	\$3.71	\$3.71	\$3.71	
Subtotal Trunkline Removal and Loading Costs	\$28,778	\$31,563	\$0	\$20,423	\$9,283	\$37,133	\$44,560	\$37,133	\$25,993	\$36,019	
B. Transport and Disposal Costs (NRC-Licensed Facility)											
1. 2" HDPE Trunkline											
Piping Length (ft)	7750	8500	0	22000	0	0	0	0	0	0	
Chipped Volume Reduction (ft <sup>3</sup> /ft)	0.0107	0.0107	0.0107	0.0107	0.0107	0.0107	0.0107	0.0107	0.0107	0.0107	
Chipped Volume (ft <sup>3</sup> )	83	91	0	236	0	0	0	0	0	0	
1. 4" HDPE Trunkline											
Piping Length (ft)	0	0	0	0	15000	10000	12000	10000	7000	0	
Chipped Volume Reduction (ft <sup>3</sup> /ft)	0.0385	0.0385	0.0385	0.0385	0.0385	0.0385	0.0385	0.0385	0.0385	0.0385	
Chipped Volume (ft <sup>3</sup> )	0	0	0	0	577	385	462	385	269	0	
2. 6" HDPE Trunkline											
Piping Length (ft)	7750	17000	0	0	0	0	0	0	0	9700	
Chipped Volume Reduction (ft <sup>3</sup> /ft)	0.0834	0.0834	0.0834	0.0834	0.0834	0.0834	0.0834	0.0834	0.0834	0.0834	
Chipped Volume (ft <sup>3</sup> )	646	1,418	0	0	0	0	0	0	0	809	
3. 12" HDPE Trunkline											
Piping Length (ft)	0	6000	0	0	0	0	0	0	0	0	
Chipped Volume Reduction (ft <sup>3</sup> /ft)	0.3088	0.3088	0.3088	0.3088	0.3088	0.3088	0.3088	0.3088	0.3088	0.3088	
Chipped Volume (ft <sup>3</sup> )	0	1,853	0	0	0	0	0	0	0	0	
4. 16" HDPE Trunkline											
Piping Length (ft)	15500	11000	0	15500	15500	0	0	0	0	0	
Chipped Volume Reduction (ft <sup>3</sup> /ft)	0.4864	0.4864	0.4864	0.4864	0.4864	0.4864	0.4864	0.4864	0.4864	0.4864	
Chipped Volume (ft <sup>3</sup> )	7,539	5,350	0	7,539	7,539	0	0	0	0	0	
5. 18" HDPE Trunkline											
Piping Length (ft)	0	0	0	0	2320	0	0	0	0	0	
Chipped Volume Reduction (ft <sup>3</sup> /ft)	0.6155	0.6155	0.6155	0.6155	0.6155	0.6155	0.6155	0.6155	0.6155	0.6155	
Chipped Volume (ft <sup>3</sup> )	0	0	0	0	1,428	0	0	0	0	0	
Total Volume Chipped (ft <sup>3</sup> )	8,268	8,712	0	7,775	9,544	385	462	385	269	809	
Volume for Disposal Assuming Void Space (ft <sup>3</sup> )	9,095	9,583	0	8,552	10,498	423	508	423	296	890	
Transportation and Disposal Unit Cost (NRC-Licensed Facility) (\$/ft <sup>3</sup> )	\$5.77	\$5.77	\$5.77	\$5.77	\$5.77	\$5.77	\$5.77	\$5.77	\$5.77	\$5.77	
Subtotal Transport and Disposal Costs	\$52,476	\$55,292	\$0	\$49,343	\$60,571	\$2,441	\$2,931	\$2,441	\$1,708	\$5,135	
C. Discing/Seeding											
Width of Pipeline Trench (ft)	4	4	4	4	4	5	5	5	5	5	
Area of Pipeline Trench (acres)	0.7	0.8	0.0	0.5	0.2	1.1	1.4	1.1	0.8	1.1	
Discing/Seeding Unit Cost (\$/acre)	\$548	\$548	\$548	\$548	\$548	\$548	\$548	\$548	\$548	\$548	
Subtotal Discing/Seeding Costs	\$390	\$427	\$0	\$277	\$126	\$629	\$754	\$629	\$440	\$610	
Subtotal Reclamation Costs per Pipeline	\$81,644	\$87,282	\$0	\$70,043	\$69,980	\$40,203	\$48,245	\$40,203	\$28,141	\$41,764	
<b>Total Pipeline Reclamation Costs</b>	<b>\$507,505</b>										
<b>IV. Settling Basin/Storage Ponds Reclamation</b>											
A. Soil Sampling and Monitoring											
Number of Soil Samples	15	15									
\$/Sample	\$255	\$255									
Subtotal Soil Sampling and Monitoring Costs	\$3,825	\$3,825									
B. Liner/Subsoil Removal and Disposal											

**Cameco Resources  
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Miscellaneous Reclamation					
	Thickness of clay liner (ft)		1	0.5	
	Thickness of contaminated subsoil (ft)		1	0.5	
	Width of Pond (ft)		200	252	
	Length of Pond (ft)		100	432	
	Depth of Pond (ft)		10	20	
	Surface area of pond (ft <sup>2</sup> )		20000	108864	
1.	Removal and Loading				
	Volume of Clay Liner (cy)		1481	4032	
	Clay Liner Removal and Loading Unit Cost (\$/cy)		\$5.12	\$5.12	
	Subtotal Liner Removal and Loading Costs		\$7,580	\$20,629	
2.	Transportation and Disposal				
	Volume of Clay Liner (ft <sup>3</sup> )		1481	4032	
	Volume of Geotextile Liner (ft <sup>3</sup> )		52	0	
	Volume of Geotextile Liner @ 40% void (ft <sup>3</sup> )		87	0	
	Transportation and Disposal Unit Cost (\$/ft <sup>3</sup> )		\$5.80	\$5.80	
	Subtotal Liner Transportation and Disposal Costs		\$9,103	\$23,405	
	Subtotal Liner Removal and Disposal Costs		\$16,683	\$44,034	
C.	Grade and Contour				
	Volume of Embankment Material (CY)		7,407	80,640	
	Average Grade (%)		0	0	
	Distance (ft)		50	100	
	Material Moving Unit Cost per WDEQ Guideline No.12, App.E (\$/cy)		\$0.176	\$0.297	
	Subtotal Grade and Contour Costs		\$1,304	\$23,950	
D.	Topsoil Application				
	Area of surface disturbance (ft <sup>2</sup> )		20000	108899	
	Average thickness of topsoil (ft)		1	1	
	Average haul distance (ft)		1000	1000	
	Surface grade (%)		0%	3%	
	Volume of Topsoil (cy)		741	4,033	
	Topsoil Unit Cost per WDEQ Guideline No.12, App.C (\$/cy)		\$1.418	\$1.418	
	Subtotal Topsoil Application Costs		\$1,050	\$5,719	
E.	Discing/Seeding				
	Area of surface disturbance (acres)		0.5	2.5	
	Discing/Seeding Unit Cost (\$/acre)		\$548	\$548	
	Subtotal Discing/Seeding Costs		\$274	\$1,369	
	Subtotal Reclamation Costs		\$23,136	\$78,897	
	Total Settling Basin/Ponds Reclamation Costs		\$102,033		
V.	Potential Ground Water Mitigation for Casing Leak Investigation				
A.	CLI Investigation Costs		\$933,577	*Based on planned expenditures (June 2013)	
B.	Ground Water Pump and Treat Costs				
	Subtotal Ground Water Pump and Treat Costs		\$0		
C.	Well Abandonment (CLI Shallow Wells)				
	# of Monitoring Wells (Current)		0		
	Average Well Depth (ft)		0		
	# of Monitoring Wells (Planned)		8		
	Average Well Depth (ft)		250		
	Total Well Depth (ft)		2,000		
	Well Abandonment (\$/ft)		2.75		
	Small Site Grading and Seeding (\$/site)		\$55		
	Remove and Dispose Casing (\$/well)		\$33		
	Concrete Pedestal Disposal (\$/each)		\$110		
	Subtotal Well Abandonment Costs		\$7,084		
	Total CLI Ground Water Mitigation Costs		\$940,661		
TOTAL MISCELLANEOUS RECLAMATION COSTS			\$1,941,337		



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	Mine Unit-1	Mine Unit-2	Mine Unit-3/Ext	Mine Unit-4/4A	Mine Unit-15	Mine Unit-15A	Mine Unit K	Mine Unit K-North	Mine Unit 9	Mine Unit 10	10-Extension	Mine Unit 27	Mine Unit 21	Mine Unit 7
<b>Pore Volume Calculations</b>														
Flare Factor	1.56	1.05	1.16	1.14	1.48	1.68	1.21	1.30	1.52	1.45	0	1.82	0	1.74
Wellfield Area (ft2)	1,108,034	2,271,426	2,174,453	2,725,270	2,554,278	970,206	1,813,644	1,424,902	1,931,533	2,167,666	0	1,764,110	0	1,490,217
Wellfield Area (acres)	25.44	52.14	49.92	62.56	58.64	22.27	41.64	32.71	44.34	49.76	0.00	40.50	0.00	34.21
Affected Ore Zone Area (ft2)	1,108,034	2,271,426	2,174,453	2,725,270	2,554,278	970,206	1,813,644	1,424,902	1,931,533	2,167,666	0	1,764,110	0	1,490,217
Avg. Completed Thickness	18.0	23.0	30.0	19.0	18.0	16.0	19.0	21.0	23.0	30.0	0.0	23.0	0.0	20.0
Porosity	0.27	0.27	0.27	0.27	0.27	0.27	0.27	0.27	0.27	0.27	0.27	0.27	0.27	0.27
Affected Volume (ft3)	31,113,595	54,854,938	75,670,964	59,029,348	68,045,966	26,079,137	41,695,676	38,899,825	67,526,394	94,293,471	0	73,845,645	0	51,859,552
Kgallons per Pore Volume	62,837	110,785	152,825	119,216	137,426	52,669	84,209	78,562	136,376	190,435	0	149,139	0	104,736
<b>Restoration Schedule (Based on Annual Water Balance/Schedule Update)</b>														
Pre-Restoration Period (yrs)	0	1	6	0	2	9	8	11	10	10	0	0	0	10
Restoration Period (yrs)	1	6	4	6	7	3	5	3	7	8	0	6	0	6
Stability Period (yrs)	1	1	1	1	1	1	1	1	1	1	0	1	0	1
Total # of Years	2	8	11	7	10	13	14	15	18	19	0	7	0	17
End of Restoration (yrs)	18													
End of Stability (yrs)	19													
<b>Number of Header Houses per Wellfield</b>														
Current	6	5	10	11	13	10	9	7	13	9	0	0	0	0
Planned	0	0	0	0	0	0	0	0	0	0	0	11	0	7
Total Estimated	6	5	10	11	13	10	9	7	13	9	0	11	0	7
Average Header House Volume (ft3)	1600													
<b>Number of Wells (In Service) per Wellfield</b>														
<b>Production Wells (P)</b>														
Current	95	134	207	229	416	Inc in MU-15		171	99	260	196	0	0	27
Planned	0	0	0	0	0	0	0	0	0	14	0	220	0	108
Total Estimated	95	134	207	229	416	0	171	99	260	210	0	220	0	135
<b>Injection Wells (I)</b>														
Current	160	233	280	371	835	0	280	175	398	341	0	0	0	29
Planned	0	0	0	0	0	0	0	0	0	39	0	420	0	221
Total Estimated	160	233	280	371	835	0	280	175	398	380	0	420	0	250
<b>Restoration Wells (R)</b>														
Current	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Planned	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total Estimated	0	0	0	0	0	0	0	0	0	0	0	0	0	0
<b>Monitor Wells (M, MO, MU, etc.)</b>														
Current	52	50	54	90	130	0	59	53	79	91	0	85	0	44
Planned	0	0	8	0	0	0	0	0	0	0	60	0	0	0
Total Estimated	52	50	62	90	130	0	59	53	79	91	60	85	0	44
<b>Other Wells (Pumping Wells, etc.)</b>														
Current	1	2	3	0	3	0	0	1	7	1	0	3	0	2
Planned	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total Estimated	1	2	3	0	3	0	0	1	7	1	0	3	0	2
<b>Wellfield Refurbishment (I or P)</b>														
Planned	0	60	100	60	121	0	0	0	0	0	0	0	0	0
Number of In Service Wells per Wellfield	308	479	652	750	1505	0	510	328	744	682	60	728	0	431
Total Number of Wells	7,177													
<b>Well Completion Details</b>														
Average Well Depth (ft)	500	850	750	850	450	500	950	864	950	900	900	800	600	825
Average Diameter of Casing (inches)	5	5	5	5	4.5	4.5	4.5	4.5	5	5	5	0	0	5
<b>Wellfield Fencing</b>														
Length of Fencing (ft)	16,487	11,580	7,388	25,047	7,074	0	23,271	23,271	21,887	21,595	0	19,732	0	8,674



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<b>Labor Costs</b>		<b>Rate (\$)</b>	<b>Net Benefits*</b>	<b>Units</b>	<b>Source</b>
Environmental Manager/RSO		\$46.00	\$64.40	hour	MSEC**
Restoration Manager		\$40.00	\$56.00	hour	MSEC
Environmental Tech/HPT		\$25.00	\$35.00	hour	MSEC
Operator/Laborer		\$26.00	\$36.40	hour	MSEC
Maintenance Tech		\$23.00	\$32.20	hour	MSEC
*Includes additional 40% net benefits based on InfoMine USA cost data for Surface Metal and Industrial Mineral Mines - Western U.S. (Table 5)					
**Mountain States Employers Council, 2012 Survey, Mining Industry Compensation & Benefits					
<b>Utility Costs</b>		<b>Rate (\$)</b>	<b>Profit &amp; Overhead</b>	<b>Units</b>	<b>Source</b>
Electrical Costs		\$0.0597	included	kWhr	Actual Costs-2013
Kilowatt to Horsepower		0.746	included	Kw/HP	N/A
Efficiency - Downhole Pumps		80%	included	Percent	N/A
Efficiency - Surface Pumps		90%	included	Percent	N/A
Natural Gas - CPP/Main Office Area		\$78,354.10	included	year	Actual Costs-2012
Natural Gas - Satellite SR-1		\$8,639.18	included	year	Actual Costs-2012
Propane - CPP/Main Office Area		\$186.90	included	year	Actual Costs-2012
Propane - Satellite SR-2		\$36,423.19	included	year	Actual Costs-2012
<b>Chemical &amp; Materials Costs</b>		<b>Rate (\$)</b>	<b>Profit &amp; Overhead</b>	<b>Units</b>	<b>Source</b>
Antiscalant for RO (Hypersperse)		\$3.9050	included	pound	Actual Costs-2013
Antiscalant for RO (ScaleTrol)		\$4.5177	included	pound	Actual Costs-2013
Sodium Tripolyphosphate		\$1.0893	included	pound	Actual Costs-2013
EDTA Tetrasodium Dihydrate		\$1.8774	included	pound	Actual Costs-2013
Sodium Sulfide		\$0.5520	included	pound	Quote-2013
Hydrochloric Acid		\$0.1992	included	pound	Actual Costs-2013
Barium Chloride		\$0.7970	included	pound	Actual Costs-2013
Iron Aggregate		\$0.5516	included	pound	Actual Costs-2013
Silica Sand		\$0.1407	included	pound	Actual Costs-2011
Pea Gravel		\$0.0190	included	pound	Actual Costs-2013
<b>Analytical Costs</b>		<b>Rate (\$)</b>	<b>Profit &amp; Overhead</b>	<b>Units</b>	<b>Source*</b>
Modified Guideline 8		\$249.00	included	analysis	Quote: 2012-13
Excursion Parameters (UCL)		\$30.00	included	analysis	Fee Schedule-2013
Restoration Progress Parameters (UCL + U + Se)		\$50.00	included	analysis	Fee Schedule-2013
Irrigator Fluid		\$245.00	included	analysis	Actual Costs-2012
Irrigator Vegetation		\$270.00	included	analysis	Actual Costs-2012
Irrigator Soil		\$255.00	included	analysis	Actual Costs-2012
Irrigator Soil Water		\$150.00	included	analysis	Fee Schedule-2013
Other (Radon, Bioassay, etc.)		\$1,000.00	\$1,100.00	analysis	Cost Estimate
*All quotes, fee schedules and actual costs based on Energy Laboratories, Inc., Casper, WY					
<b>Equipment Costs</b>		<b>Rate (\$)</b>	<b>Profit &amp; Overhead*</b>	<b>Units</b>	<b>Source</b>
Bandit 1290XP Trailer Mounted Brush Chipper		\$47.93	\$52.72	hour	Equipment Watch**
Bobcat S250 Skid Steer Loader		\$36.57	\$40.23	hour	Equipment Watch
Cat 320C L Trackhoe - 1.25 cu yd bucket		\$100.03	\$110.03	hour	Equipment Watch
Cat 416E Backhoe		\$34.97	\$38.47	hour	Equipment Watch
Cat 924H Loader - 2.4 cu yd bucket		\$52.93	\$58.22	hour	Equipment Watch
Concrete Jaws Labounty - CP-60		\$18.51	\$20.36	hour	Equipment Watch
GEHL DL-8 Rough Terrain Lift Truck		\$56.44	\$62.08	hour	Equipment Watch
Manlift		\$47.54	\$52.29	hour	Equipment Watch
MIT Unit		\$30.09	\$33.10	hour	Equipment Watch
Pick-up Truck 3/4 ton 4x4		\$20.13	\$22.14	hour	Equipment Watch
Pulling Unit***		\$35.32	\$38.85	hour	Equipment Watch
*Includes additional 10% Profit & Overhead per WDEQ/LQD Guideline No. 12, Section 12(b)					
**Equipment Watch Rental Rate Blue Book: Volume 1 (1st Half 2013)					
***1 3/4 Ton 4x4 Truck with Hoist					
<b>Quoted Costs</b>		<b>Rate (\$)</b>	<b>Profit &amp; Overhead</b>	<b>Units</b>	<b>Source</b>
Deep Disposal Well - Plug & Abandonment Costs		\$13.62	included	foot	UIC Permit-2012
Deep Disposal Well - MIT Costs		\$31.625	included	well	Quote-2013
Well Replacements (Restoration)		\$14,763	included	well	Actual Costs-2013
Bellhole Refurbishment		\$5,530	included	bellhole	Contract-2012
Header House Refurbishment		\$32,000	included	header house	Actual Costs-2013
<b>WDEQ/LQD Guideline No. 12 Costs</b>		<b>Rate (\$)</b>	<b>Profit &amp; Overhead*</b>	<b>Units</b>	<b>Source</b>
Moving Materials: One-Way Distance 500 feet, 0% grade	Appendix C	\$1.080	\$1.188	bcy	Guideline-10/2012
Moving Materials: One-Way Distance 1,000 feet, 0% grade	Appendix C	\$1.289	\$1.418	bcy	Guideline-10/2012
Moving Materials: One-Way Distance 2,000 feet, 0% grade	Appendix C	\$1.671	\$1.838	bcy	Guideline-10/2012
Moving Materials: One-Way Distance 50 feet, 0% grade	Appendix E	\$0.160	\$0.176	lcy	Guideline-10/2012
Moving Materials: One-Way Distance 100 feet, 0% grade	Appendix E	\$0.270	\$0.297	lcy	Guideline-10/2012
Moving Materials: One-Way Distance 150 feet, 0% grade	Appendix E	\$0.351	\$0.386	lcy	Guideline-10/2012
Grading Operating Costs	Appendix G	\$75.25	\$82.78	acre	Guideline-10/2012
Fencing Removal	Appendix H	\$0.32	\$0.35	foot	Guideline-10/2012
Ripping Operating Costs (Asphalt)	Appendix I	\$881.07	\$969.18	acre	Guideline-10/2012



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Ripping Operating Costs (Overburden)	Appendix H	\$1,209.63	\$1,330.59	acre	Guideline-10/2012	
Building Demolition - Mixture of Types	Appendix K	\$0.278	\$0.31	ft3	Guideline-10/2012	
Building Demo Disposal (Average)	Appendix K	\$9.50	\$10.45	cy	Guideline-10/2012	
Concrete (Floor) Demolition - 6" Thick with Rebar	Appendix K	\$5.31	\$5.84	ft2	Guideline-10/2012	
Concrete (Footings) Demolition - 2' Thick, 3' Wide	Appendix K	\$19.78	\$21.76	linear foot	Guideline-10/2012	
Concrete Disposal On-Site	Appendix K	\$8.25	\$9.08	cy	Guideline-10/2012	
Drill Hole Abandonment: Wet Exploration Holes >25 holes	Appendix L	\$3.00	\$3.30	foot	Guideline-10/2012	
Well Abandonment: Monitor, Production, and Injection Wells	Appendix L	\$2.50	\$2.75	foot	Guideline-10/2012	
Incidental Costs: Small Site Grading and Seeding (<1000 sq. feet)	Appendix L	\$50	\$55	site	Guideline-10/2012	
Incidental Costs: Capping	Appendix L	\$10	\$11	each	Guideline-10/2012	
Incidental Costs: Site Location	Appendix L	\$10	\$11	hole	Guideline-10/2012	
Incidental Costs: Remove Pump, Wiring, and Drop Pipe	Appendix L	\$0.40	\$0.44	foot	Guideline-10/2012	
Incidental Costs: Remove and Dispose Casing (top few feet)	Appendix L	\$30	\$33	well	Guideline-10/2012	
Incidental Costs: Monitoring Well Concrete Pedestal Disposal	Appendix L	\$100	\$110	each	Guideline-10/2012	
Scarification Costs	Appendix P	\$69.02	\$75.92	acre	Guideline-10/2012	
Revegetation Costs-Seed	Appendix Q	\$106	\$117	acre	Actual Costs-2013	
Revegetation Costs-Mulch	Appendix Q	\$91.88	\$101.07	acre	Actual Costs-2013	
Revegetation Costs-Fertilizer	Appendix Q	\$300.00	\$330.00	acre	Actual Costs-2013	
Revegetation Costs-Total	Appendix Q	\$497.88	\$547.67	acre	Actual Costs-2013	
*Includes additional 10% Profit & Overhead per WDEQ/LQD Guideline No. 12, Section 12(b)						
<b>Construction &amp; Demolition Debris Transportation &amp; Disposal Costs</b>						
Building Volume for Disposal	0.33					
Void Factor (for disposal)	1.1					
	<b>Disposal (\$/ton)</b>	<b>C&amp;D (cy/ton)</b>	<b>Tranport (\$/load)</b>	<b>C&amp;D (cy/load)</b>	<b>Total (\$/cy)</b>	<b>Total (\$/ft3)</b>
C&D Debris (county landfill)	\$62.00	2	\$335.00	30	\$42.17	\$1.56
*Transportation and disposal costs based on actual costs (2013). Transportation and disposal costs include profit and overhead of service provider. Conversion factors of 2 cy/ton and 0.33 to account for air space in buildings based on FEMA - Debris Estimating Field Guide, FEMA 320, September 2010.						
<b>11e.(2) Byproduct Material Transportation &amp; Disposal</b>						
Load Correction Factor: Soil, sand, etc.	1.1					
Load Correction Factor: Process materials, etc.	0.42					
<b>White Mesa</b>	<b>Disposal (\$/ton)</b>	<b>Disposal (\$/cy)</b>	<b>Volume (cy)</b>	<b>Tranport (\$/cy)</b>	<b>Total (\$/cy)</b>	<b>Total (\$/ft3)</b>
Type I: Soil, sand, gravel, rock, concrete rubble, etc.	\$138.97	\$152.87	13.0	\$247.95	\$400.82	\$14.85
Type II: Process material, pumps, motors, etc.	\$160.08	\$67.23	24.7	\$130.50	\$197.73	\$7.32
Type II: Chipped piping	\$160.08	\$67.23	36.4	\$88.55	\$155.78	\$5.77
<b>Pathfinder</b>						
Type I: Soil, sand, rock, gravel, demolition masonry, concrete rubble	N/A	\$130.00	13.0	\$26.73	\$156.73	\$5.80
Type II: Other process waste, process equipment, etc.	N/A	\$378.00	24.7	\$14.07	\$392.07	\$14.52
Type II: Chipped piping	N/A	\$378.00	36.4	\$9.55	\$387.55	\$14.35
*Transportation and disposal costs based on contract amounts as adjusted annually. Transportation and disposal costs include profit and overhead of service provider and include all unloading and decontamination fees, waste tax, fuel surcharges, etc. Tranportation costs assume 1) one truck transports one 13-cy bin of Type I waste, 2) one truck transports one 24.7-cy bin of Type II process waste (including pumps, motors, etc.) and 3) one truck tranports one 36.4-cy bin of Type II chipped piping waste.						

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**GROUNDWATER RESTORATION UNIT COSTS**

**Wellfield Pumping**

<b>Equipment</b>		
Wellfield Pump Sizes	5	hp
Wellfield Pump Flow Rate	25	gpm
kW to HP Conversion Factor	0.746	
Cost of Electricity	\$0.0597	kWhr
Efficiency	80%	
<b>Wellfield Pumping Cost</b>	<b>\$0.19</b>	<b>per kgal</b>

**Satellite Pumping**

<b>Equipment</b>		
Satellite Pump Sizes	60	hp
Satellite Pump Flow Rate	75	gpm
kW to HP Conversion Factor	0.746	
Cost of Electricity	\$0.0597	kWhr
Efficiency	90%	
<b>Satellite Pumping Cost</b>	<b>\$0.66</b>	<b>per kgal</b>

**Deep Disposal Well Injection**

<b>Equipment</b>		
Deep Disposal Well Pump Size	75	hp
Deep Disposal Well Flow Rate	75	gpm
kW to HP Conversion Factor	0.746	
Cost of Electricity	\$0.0597	kWhr
Efficiency	90%	
<b>Reagent</b>		
Antiscalant Cost (Scaletrol)	\$4.5177	per lb
Density of Water	8.34	lbs/gal
Specific Gravity (Scaletrol)	1.284	
Antiscalant Cost (Scaletrol)	\$48.38	per gal
Antiscalant Dose (ScaleTrol)	0.0000048	gal/gal
<b>Deep Disposal Well Cost</b>	<b>\$1.06</b>	<b>per kgal</b>

**Total Groundwater Sweep Costs**      **\$1.90**      **per kgal**

**Reverse Osmosis**

<b>Equipment</b>		
System Capacity	250	gpm
Unit Pump	60	hp
Injection Pump	60	hp
Waste Pump	15	hp
kW to HP Conversion Factor	0.746	
Cost of Electricity	\$0.0597	kWhr
Efficiency	90%	
<b>Reagents</b>		
Tripolyphosphate Usage Rate	0.00000130	lb/gal
Tripolyphosphate Cost	\$1.0893	per lb
EDTA Usage Rate	0.00000315	lb/gal
EDTA Cost	\$1.8774	per lb
Antiscalant Cost (Hypersperse)	\$3.9050	per lb
Density of Water	8.34	lbs/gal
Specific Gravity (Hypersperse)	1.124	
Antiscalant Cost (Hypersperse)	\$36.6061	per gal
Antiscalant Dose (Hypersperse)	0.0000036	gal/gal
Sodium Sulfide Usage Rate	0.00017	lb/gal
Sodium Sulfide Cost	\$0.5520	per lb
<b>RO Cost (without Reductant)</b>	<b>\$0.58</b>	<b>per kgal</b>
<b>RO Cost (with Reductant)</b>	<b>\$0.67</b>	<b>per kgal</b>

**MIT Costs for Production Wells**

<b>Equipment</b>		
Pulling Unit Hours	4	hrs/day
Pulling Unit Cost	\$38.85	\$/hour
MIT Unit Hours	8	hrs/day
MIT Unit Cost	\$33.10	\$/hour
<b>Labor</b>		



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	Required Hours	8 hrs/day							
	Required Laborers	1.5 per day							
	Labor Cost	\$32.20 \$/hour							
	Productivity	4 wells/day							
	<b>MIT Cost for Production Wells</b>	<b>\$201.65 per well</b>							
	<b>MIT Costs for Injection Wells</b>								
	Equipment								
	Pulling Unit Hours	0 hrs/day							
	Pulling Unit Cost	\$38.85 \$/hour							
	MIT Unit Hours	8 hrs/day							
	MIT Unit Cost	\$33.10 \$/hour							
	Labor								
	Required Hours	8 hrs/day							
	Required Laborers	1 per day							
	Labor Cost	\$32.20 \$/hour							
	Productivity	4 wells/day							
	<b>MIT Cost for Injection Wells</b>	<b>\$130.60 per well</b>							
	<b>Booster Pump Operating Cost</b>								
	Equipment								
	Wellfield Pump Sizes	40 hp							
	Number of Pumps Running (avg.)	9 per year							
	Hours Running	24 per day							
	kW to HP Conversion Factor	0.746							
	Cost of Electricity	\$0.0597 kWhr							
	Efficiency	90%							
	<b>Booster Pump Operating Costs</b>	<b>\$155,962.62 per year</b>							
	<b>WELL ABANDONMENT UNIT COSTS</b>								
	<b>Removal of Contaminated Soil Around Wells</b>								
	Equipment								
	Cat 416 Backhoe Time	0.25 hours							
	Cat 416 Backhoe Cost	\$38.47 per hour							
	Labor								
	Radiation Technician	0.25 hours							
	Radiation Technician Cost	\$35.00 per hour							
	Operator	0.25 hours							
	Operator Cost	\$36.40 per hour							
	Disposal								
	ByProduct Disposal	0.37 cubic yard							
	Disposal Cost (incl. Transport)	\$156.73 per cubic yard							
	<b>Removal of Contaminated Soil Cost</b>	<b>\$85.46 per well</b>							
	<b>DDW Pump Dismantling and Disposal</b>								
	Labor								
	Number of Laborers	2 per day							
	Number of Pumps Dismanteled	0.5 per day							
	Hours Per Day	8 hours							
	Laborers Cost	\$32.20							
	Disposal								
	Volume of DDW Pump	240 ft³							
	ByProduct Disposal	\$7.32 per ft³							
	<b>DDW Pump Dismanteling and Disposal</b>	<b>\$2,788.03 per pump</b>							
	<b>WELLFIELD RECLAMATION COSTS</b>								
	<b>Wellfield Piping Removal</b>								
	Equipment								
	Trackhoe	1 per day							
	Trackhoe Cost	\$110.03 per hour							
	Loader	1 per day							
	Loader Cost	\$58.22 per hour							
	Pickup Truck	1 per day							
	Pickup Cost	\$22.14 per hour							
	Chipper Cost	\$52.72 per hour							

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<b>Labor</b>			
Backhoe Operator	\$36.40	per hour	
Loader Operator	\$36.40	per hour	
Laborer	\$32.20	per hour	
Hours Per Day	8	per day	
Productivity	1500	ft/day	
<b>Piping Removal Cost</b>	<b>\$1.86</b>	<b>per foot of pipe</b>	
<b>Piping Reduction</b>			
2" Pipe	0.0107		
3" Pipe	0.0233		
4" Pipe	0.0385		
6" Pipe	0.0834		
8" Pipe	0.1413		
10" Pipe	0.2196		
12" Pipe	0.3088		
14" Pipe	0.3723		
16" Pipe	0.4864		
18" Pipe	0.6155		
<b>Trunk Line Removal</b>			
<b>Equipment</b>			
Trackhoe	1	per day	
Trackhoe Cost	\$110.03	per hour	
Loader	1	per day	
Loader Cost	\$58.22	per hour	
Pickup Truck	1	per day	
Pickup Cost	\$22.14	per hour	
Chipper Cost	\$52.72	per hour	
<b>Labor</b>			
Trackhoe Operator	\$36.40	per hour	
Loader Operator	\$36.40	per hour	
Laborer	\$32.20	per hour	
Hours Per Day	8	per day	
Productivity	750	ft/day	
<b>Buried Piping Removal Cost</b>	<b>\$3.71</b>	<b>per foot of pipe</b>	
<b>Production Pump Volume</b>			
Length	66	inches	
Diameter	3.8	inches	
Cubic Inch to Cubic Foot Conversion	0.0006		
<b>Production Pump Volume</b>	<b>0.43</b>	<b>cubic feet</b>	
<b>Removal of Well Head Covers</b>			
Volume of Well Head Cover (ft <sup>3</sup> )	1.86	cubic feet	
Demolition Cost	\$0.306	per cubic ft	
<b>Decontamination</b>			
Acid Usage	4.1	pounds per wellhead cover	
Acid Cost	\$0.20	per wellhead cover	
<b>Labor</b>			
Radiation Tech	\$35.00	per hour	
Operator	\$36.40	per hour	
Productivity	10	wellheads per hour	
<b>Disposal</b>			
Void space	10%		
Transportation and Disposal Cost	\$1.56	per cubic ft	
<b>Removal of Well Head Cover Cost</b>	<b>\$11.72</b>	<b>per well</b>	
<b>Header House Decontamination</b>			
<b>Decontamination</b>			



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Acid Usage	20	pounds per header house
Acid Cost	\$0.20	per pound
Labor		
Radiation Tech	\$35.00	per hour
Number of Operators	2	per day
Operator	\$36.40	per hour
Hours Per Day	8	per day
Productivity	1	header house per day
<b>Header House Decontamination Cost</b>	<b>\$621</b>	<b>per header house</b>
<b>Header House Heating</b>		
Heater Power Usage	12.5	kW
Days Used	180	days per year
Electricity Cost	\$0.0597	kWhr
<b>Header House Heating Cost</b>	<b>\$3,222</b>	<b>per year</b>
<b>WELLFIELD AND SATELLITE AND SURFACE RECLAMATION</b>		
<b>Wellfield Road Reclamation</b>		
Gravel Road Base		
Average Depth	0.25	feet
Average Width	10	feet
Material Moved (0% Grade)	\$1.42	bcy
Cubic Yard to Cubic Feet Conversion	0.04	
Scarification of Road		
Scarification Costs	\$76	per acre
Average Width	25	feet
Acre to Sq. Foot Conversion	2.29568E-05	
Grading Cost	\$83	per acre
Topsoil Depth	0.67	feet
Discing/Seeding Costs	\$548	
Linear Feet for Unit Cost	1000	feet
<b>Wellfield Road Reclamation Cost</b>	<b>\$1,416.31</b>	<b>per 1000 feet</b>
<b>EQUIPMENT COSTS</b>		
<b>Tank Removal</b>		
Equipment		
Loader	\$58.22	per hour
Trackhoe	\$110.03	per hour
Manlift	\$52.29	per hour
Pickup	\$22.14	per hour
Lift Truck	\$62.08	per hour
Labor		
Number of Operators	4	
Operator Cost	\$36.40	per hour
Hours Per Day	8	per day
Productivity	25	ft <sup>3</sup> /day
<b>Tank Removal Cost</b>	<b>\$144</b>	<b>per ft<sup>3</sup></b>
<b>Pipe Removal</b>		
Equipment		
Manlift	\$52.29	per hour
Pickup	\$22.14	per hour
Lift Truck	\$62.08	per hour
Chipper	\$52.72	per hour
Labor		
Number of Operators	4	
Operator Cost	\$36.40	per hour
Hours Per Day	8	per day
Productivity	300	ft/day
<b>Pipe Removal Cost (Inside Buildings)</b>	<b>\$8.93</b>	<b>per ft</b>
<b>Pump Removal</b>		
Equipment		
Truck	\$22.14	per hour
Skid Steer	\$40.23	per hour
Labor		

**Cameco Resources  
Smith Ranch Uranium Project  
2013-14 Surety Estimate Update**

Number of Operators	2	
Operator Cost	\$36.40	per hour
Hours Per Day	8	per day
Productivity	10	ft <sup>3</sup> /day
<b>Pump Removal</b>	<b>\$108.14</b>	<b>per ft<sup>3</sup></b>
<b>Dryer Removal</b>		
Equipment		
Truck	\$22.14	per hour
Lift Truck	\$62.08	per hour
Labor		
Number of Operators	4	
Operator Cost	\$36.40	per hour
Hours Per Day	8	per day
Productivity	125	ft <sup>3</sup> /day
<b>Dryer Removal Cost</b>	<b>\$14.71</b>	<b>per ft<sup>3</sup></b>
<b>RO and Degasser Removal</b>		
Equipment		
Truck	\$22.14	per hour
Lift Truck	\$62.08	per hour
Labor		
Number of Operators	2	
Operator Cost	\$36.40	per hour
Hours Per Day	8	per day
Productivity	250	ft <sup>3</sup> /day
<b>RO and Degasser Removal Cost</b>	<b>\$5.02</b>	<b>per ft<sup>3</sup></b>
<b>BUILDING COSTS</b>		
<b>Acid Wash Walls</b>		
Acid		
Acid Usage	0.05	per square foot
Acid Cost	\$0.20	per pound
Equipment		
Manlift	\$52.29	per hour
Labor		
Laborer	2	people
Laborer Cost	\$32.20	per hour
Productivity	125	square feet per hour
<b>Acid Wash Walls Cost</b>	<b>\$0.94</b>	<b>per square foot</b>
<b>Acid Wash Floors</b>		
Acid		
Acid Usage	0.05	per square foot
Acid Cost	\$0.20	per pound
Labor		
Laborer	2	people
Laborer Cost	\$32.20	per hour
Productivity	125	square feet per hour
<b>Acid Wash Floors Cost</b>	<b>\$0.53</b>	<b>per square foot</b>
<b>Electrical Power</b>		
*Pumping Costs for Operating DDWs, RO, and Wellfield are included in GW Rest Costs		
<b>CPP</b>		
Miscellaneous Pumps, Fans, Sumps, etc.	27.5	HP
Lighting	35.0625	kW (per square ft)
kW to HP Conversion Factor	0.746	
Electricity Cost	\$0.0597	per kWhr
Efficiency Factor	90%	
Operating Hours Per Year	8760	hours
<b>CPP Power Cost</b>	<b>\$27,976</b>	<b>per year</b>
<b>SR 1 &amp; SR 2 Power Costs</b>		
Miscellaneous Pumps, Fans, Sumps, etc.	72.5	HP
Lighting	24	kW
kW to HP Conversion Factor	0.746	kW (per square ft)



## 2013-14 Surety Estimate Update

Electricity Cost	\$0.0597	per kWhr
Efficiency Factor	90%	
Operating Hours Per Year	8760	hours
<b>SR 1 &amp; SR 2 Power Costs</b>	<b>\$37,985</b>	<b>per year</b>
<b>Reynolds Ranch Power Costs</b>		
Miscellaneous Pumps, Fans, Sumps, etc.	72.5	HP
Lighting	24	kW
kW to HP Conversion Factor	0.746	kW (per square ft)
Electricity Cost	\$0.0597	per kWhr
Efficiency Factor	90%	
Operating Hours Per Year	8760	hours
<b>Reynolds Ranch Power Costs</b>	<b>\$37,985</b>	<b>per year</b>
<b>DDW - Typical</b>		
Miscellaneous Pumps, Fans, Sumps, etc.	2	HP
Lighting	0.4875	kW
Heating	12.5	kW
kW to HP Conversion Factor	0.746	kW (per square ft)
Electricity Cost	\$0.0597	per kWhr
Efficiency Factor	90%	
Operating Hours Per Year	8760	hours
<b>DDW Electrical Cost</b>	<b>\$4,223</b>	<b>per year</b>
<b>Maintenance Shop Power Costs</b>		
Miscellaneous Pumps, Fans, Sumps, etc.	2	HP
Lighting	8.785	kW
kW to HP Conversion Factor	0.746	kW (per square ft)
Electricity Cost	\$0.0597	per kWhr
Efficiency Factor	90%	
Operating Hours Per Year	8760	hours
<b>Maintenance Shop Power Costs</b>	<b>\$5,293</b>	<b>per year</b>
<b>Fresh Water Pumphouse Power Costs</b>		
Miscellaneous Pumps, Fans, Sumps, etc.	10	HP
Lighting	1.04	kW
Heating	10	kW
kW to HP Conversion Factor	0.746	kW (per square ft)
Electricity Cost	\$0.0597	per kWhr
Efficiency Factor	90%	
Operating Hours Per Year	8760	hours
<b>Fresh Water Pumphouse Power Costs</b>	<b>\$9,279</b>	<b>per year</b>
<b>Office Building Power Costs</b>		
Miscellaneous Pumps, Fans, Sumps, etc.	7.5	HP
Lighting	10	kW
Air Conditioning	30	kW
kW to HP Conversion Factor	0.746	kW (per square ft)
Electricity Cost	\$0.0597	per kWhr
Efficiency Factor	90%	
Operating Hours Per Year	8760	hours
<b>Office Building Power Costs</b>	<b>\$23,538</b>	<b>per year</b>
<b>MISCELLANEOUS RECLAMATION AND RESTORATION COSTS</b>		
<b>Liner and Subsoil Removal Costs</b>		
Equipment		
Trackhoe Cost	\$ 110.03	per hour
Loader Cost	\$ 58.22	per hour
Labor		
Operator	36.40	per hour
Productivity	40	cubic yards/hour
<b>Total Removal</b>	<b>\$ 5.12</b>	<b>per cubic vard</b>

**Cameco Resources  
Highland Uranium Project  
2013-14 Surety Estimate**

<b>Total Restoration and Reclamation Cost Estimate</b>			
<b>I.</b>	<b>Groundwater Restoration (GWR-WF and GWR-SITE Sheets)</b>		<b>\$45,308,604</b>
<b>II.</b>	<b>Well &amp; Drill Hole Abandonment (WA Sheet)</b>		<b>\$9,179,928</b>
<b>III.</b>	<b>Wellfield Buildings &amp; Equipment Removal &amp; Disposal (WF BLDGS Sheet)</b>		<b>\$5,091,576</b>
<b>IV.</b>	<b>Wellfield &amp; Satellite Surface Reclamation (WF REC Sheet)</b>		<b>\$497,386</b>
<b>V.</b>	<b>Equipment Removal and Disposal (EQUIP Sheet)</b>		<b>\$752,979</b>
<b>VI.</b>	<b>Building Demolition and Disposal (BLDGS Sheet)</b>		<b>\$3,140,407</b>
<b>VII.</b>	<b>Miscellaneous Reclamation (MISC REC Sheet)</b>		<b>\$7,283,590</b>
	<b>Subtotal Restoration and Reclamation Cost Estimate</b>		<b>\$71,254,471</b>
	<b>Contractor Profit &amp; Overhead (10%)<sup>1</sup></b>	<b>See Master Costs</b>	
	<b>Contingency (15%)<sup>2</sup></b>	<b>15%</b>	<b>\$10,688,171</b>
		<b>TOTAL<sup>3</sup></b>	<b>\$81,942,600</b>
<sup>1</sup> , Per WDEQ/LQD Guideline No. 12, Section 12(b)			
<sup>2</sup> , Per WDEQ/LQD Guideline No. 12, Section 12(a) and (c-h), Section 13 and NRC License Condition 9.5 (SUA-1548)			
<sup>3</sup> , Costs reflect both WDEQ & NRC requirements. No salvage value assumed.			



**Cameco Resources  
Highland Uranium Project  
2013-14 Surety Estimate**

Ground Water Restoration - Wellfield		A-Wellfield	B-Wellfield	C-Wellfield	C-22 Pattern	C Haul Drifts	D-Wellfield	D-Extension	E-Wellfield	F-Wellfield	H-Wellfield	I-Wellfield	J-Wellfield	J-Extension
<b>I. Ground Water Sweep Costs</b>														
Estimated PV's		0	0	0	0	0	0	0	0.7	1	1	1	1	0
Total kgal's for GWS		0	0	0	0	0	0	0	63,756	232,890	90,864	84,780	66,812	0
Bleed to Deep Disposal Well (%)		100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Groundwater Sweep Unit Cost (\$/kgal)		\$1.22	\$1.22	\$1.22	\$1.22	\$1.22	\$1.22	\$1.22	\$1.22	\$1.22	\$1.22	\$1.22	\$1.22	\$1.22
Subtotal Ground Water Sweep Costs per Wellfield		\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$54,370	\$283,722	\$110,696	\$103,285	\$81,395	\$0
<b>Total Ground Water Sweep Costs</b>		<b>\$633,468</b>												
<b>II. Reverse Osmosis Costs</b>														
Estimated PV's		0	0	0	0	0	0	0	3.4	4.5	4.5	4.5	4.5	0
Total Kgal's for RO		0	0	0	0	0	0	0	309,672	1,048,005	408,888	381,510	300,654	0
Wellfield Pumping Cost		\$0.19	\$0.19	\$0.19	\$0.19	\$0.19	\$0.19	\$0.19	\$0.19	\$0.19	\$0.19	\$0.19	\$0.19	\$0.19
Reverse Osmosis Unit Cost (\$/kgal)		\$0.58	\$0.58	\$0.58	\$0.58	\$0.58	\$0.58	\$0.58	\$0.58	\$0.58	\$0.58	\$0.58	\$0.58	\$0.58
Bleed to Deep Disposal Well (%)		20%	20%	20%	20%	20%	20%	20%	20%	20%	20%	20%	20%	20%
Brine Volume for Disposal		0	0	0	0	0	0	0	61,934	209,601	81,778	76,302	60,131	0
DDW Disposal Cost (\$/kgal)		\$1.06	\$1.06	\$1.06	\$1.06	\$1.06	\$1.06	\$1.06	\$1.06	\$1.06	\$1.06	\$1.06	\$1.06	\$1.06
Permeate Volume for Re-Use		0	0	0	0	0	0	0	247,738	838,404	327,110	305,208	240,523	0
Satellite Pumping Cost (\$/kgal)		\$0.66	\$0.66	\$0.66	\$0.66	\$0.66	\$0.66	\$0.66	\$0.66	\$0.66	\$0.66	\$0.66	\$0.66	\$0.66
Subtotal Reverse Osmosis Costs per Wellfield		\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$464,866	\$1,573,221	\$613,805	\$572,707	\$451,329	\$0
<b>Total Reverse Osmosis Costs</b>		<b>\$3,675,928</b>												
<b>III. Reverse Osmosis with Chemical Reductant Costs</b>														
Estimated PV's		0	0	2	1	1	1	1	3.5	3.5	3.5	3.5	3.5	0
Total kgal's for RO		0	0	169,644	19,691	0	32,309	19,233	318,780	815,115	318,024	296,730	233,842	0
Wellfield Pumping Cost		\$0.19	\$0.19	\$0.19	\$0.19	\$0.19	\$0.19	\$0.19	\$0.19	\$0.19	\$0.19	\$0.19	\$0.19	\$0.19
Reverse Osmosis with Chemical Reductant Unit Cost (\$/kgal)		\$0.67	\$0.67	\$0.67	\$0.67	\$0.67	\$0.67	\$0.67	\$0.67	\$0.67	\$0.67	\$0.67	\$0.67	\$0.67
Bleed to Deep Disposal Well (%)		20%	20%	20%	20%	20%	20%	20%	20%	20%	20%	20%	20%	20%
Brine Volume for Disposal (kgal)		0	0	33,929	3,938	0	6,462	3,847	63,756	163,023	63,605	59,346	46,768	0
DDW Disposal Cost (\$/kgal)		\$1.06	\$1.06	\$1.06	\$1.06	\$1.06	\$1.06	\$1.06	\$1.06	\$1.06	\$1.06	\$1.06	\$1.06	\$1.06
Permeate Volume for Re-Use		0	0	135,715	15,753	0	25,847	15,386	255,024	652,092	254,419	237,384	187,074	0
Satellite Pumping Cost (\$/kgal)		\$0.66	\$0.66	\$0.66	\$0.66	\$0.66	\$0.66	\$0.66	\$0.66	\$0.66	\$0.66	\$0.66	\$0.66	\$0.66
Subtotal RO with Chemical Reductant Costs per Wellfield		\$0	\$0	\$270,582	\$31,407	\$0	\$51,533	\$30,677	\$508,453	\$1,300,106	\$507,247	\$473,284	\$372,977	\$0
<b>Total Reverse Osmosis with Chemical Reductant Costs</b>		<b>\$3,546,266</b>												
<b>IV. Mechanical Integrity Testing (MIT) Costs</b>														
Pre-Restoration, Restoration and Stability Period (yrs)		0	0	3	3	3	3	3	6	14	6	8	10	0
Number of Injection Wells		1	194	258	0	0	143	0	229	704	285	234	233	0
Number of MITs per Injection Well		0.0	0.0	0.6	0.6	0.6	0.6	0.6	1.2	2.8	1.2	1.6	2.0	0.0
MIT Costs per Injection Well		\$130.60	\$130.60	\$130.60	\$130.60	\$130.60	\$130.60	\$130.60	\$130.60	\$130.60	\$130.60	\$130.60	\$130.60	\$130.60
Subtotal MIT Costs per Wellfield		\$0	\$0	\$20,217	\$0	\$0	\$11,205	\$0	\$35,888	\$257,435	\$44,665	\$48,896	\$60,859	\$0
<b>Total Wellfield MIT Costs</b>		<b>\$479,165</b>												
<b>V. Wellfield Refurbishment Costs</b>														
Well Replacement (#)		0	0	5	0	0	0	0	10	180	15	47	18	0
Replacement (\$/well)		\$14,763	\$14,763	\$14,763	\$14,763	\$14,763	\$14,763	\$14,763	\$14,763	\$14,763	\$14,763	\$14,763	\$14,763	\$14,763
Bellhole Refurbishment (#)		0	0	0	0	0	0	0	0	0	0	6	0	0
Refurbishment (\$/bellhole)		\$5,530	\$5,530	\$5,530	\$5,530	\$5,530	\$5,530	\$5,530	\$5,530	\$5,530	\$5,530	\$5,530	\$5,530	\$5,530
Header House Refurbishment (#)		0	0	0	0	0	0	0	1	26	10	6	9	0
Refurbishment (\$/header house)		\$32,000	\$32,000	\$32,000	\$32,000	\$32,000	\$32,000	\$32,000	\$32,000	\$32,000	\$10,000	\$32,000	\$32,000	\$32,000
Subtotal Refurbishment Cost per Wellfield		\$0	\$0	\$73,815	\$0	\$0	\$0	\$0	\$179,630	\$3,489,340	\$321,445	\$919,041	\$553,734	\$0
<b>Total Wellfield Refurbishment Cost</b>		<b>\$5,537,005</b>												
<b>VI. Monitoring and Sampling Costs</b>														
<b>A. Pre-Restoration Monitoring</b>														
1. Excursion Monitoring (M, MO and MU wells, twice per month)														
# of Wells		0	0	0	0	0	0	0	0	90	72	29	42	0



**Cameco Resources  
Highland Uranium Project  
2013-14 Surety Estimate**

Ground Water Restoration - Wellfield		A-Wellfield	B-Wellfield	C-Wellfield	C-22 Pattern	C Haul Drifts	D-Wellfield	D-Extension	E-Wellfield	F-Wellfield	H-Wellfield	I-Wellfield	J-Wellfield	J-Extension
Total # samples		0	0	0	0	0	0	0	0	12960	1728	696	6048	0
UCL Parameters (\$/sample)		\$30.00	\$30.00	\$30.00	\$30.00	\$30.00	\$30.00	\$30.00	\$30.00	\$30.00	\$30.00	\$30.00	\$30.00	\$30.00
Subtotal Pre-Restoration Monitoring Costs per Mine Unit		\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$388,800.00	\$51,840.00	\$20,880.00	\$181,440.00	\$0.00
Total Pre-Restoration Monitoring Costs		\$642,960.00												
<b>B. Restoration Monitoring</b>														
1. Sampling Prior to Start-up (MP Wells)														
# of Wells		0	0	0	0	0	0	0	0	21	12	6	12	0
Modified Guideline 8 (\$/sample)		\$249.00	\$249.00	\$249.00	\$249.00	\$249.00	\$249.00	\$249.00	\$249.00	\$249.00	\$249.00	\$249.00	\$249.00	\$249.00
2. Restoration Progress Monitoring (MP Wells, every 2 months)														
# of Wells		0	0	32	0	11	9	5	29	21	12	6	12	0
Total # samples		0	0	384	0	132	108	60	870	882	288	216	216	0
Restoration Progress Parameters (\$/sample)		\$50.00	\$50.00	\$50.00	\$50.00	\$50.00	\$50.00	\$50.00	\$50.00	\$50.00	\$50.00	\$50.00	\$50.00	\$50.00
3. Excursion Monitoring (M, MO and MU wells, every 2 months)														
# of Wells		0	0	71	0	0	22	16	51	90	72	29	42	0
Total # samples		0	0	852	0	0	264	192	1530	3780	1728	1044	756	0
UCL Parameters (\$/sample)		\$30.00	\$30.00	\$30.00	\$30.00	\$30.00	\$30.00	\$30.00	\$30.00	\$30.00	\$30.00	\$30.00	\$30.00	\$30.00
Subtotal Restoration Monitoring Costs per Mine Unit		\$0.00	\$0.00	\$44,760.00	\$0.00	\$6,600.00	\$13,320.00	\$8,760.00	\$89,400.00	\$162,729.00	\$69,228.00	\$43,614.00	\$36,468.00	\$0.00
Total Restoration Monitoring Costs		\$474,879												
<b>C. Stability Monitoring</b>														
1. Beginning of stability (MP wells)														
# of Wells		0	0	32	0	11	9	5	29	21	12	6	12	0
Modified Guideline 8 (\$/sample)		\$249.00	\$249.00	\$249.00	\$249.00	\$249.00	\$249.00	\$249.00	\$249.00	\$249.00	\$249.00	\$249.00	\$249.00	\$249.00
2. Quarterly sampling (MP wells)														
# of Wells		0	0	32	0	11	9	5	29	21	12	6	12	0
Total # samples		0	0	128	0	44	36	20	116	84	48	24	48	0
Modified Guideline 8 (\$/sample)		\$249.00	\$249.00	\$249.00	\$249.00	\$249.00	\$249.00	\$249.00	\$249.00	\$249.00	\$249.00	\$249.00	\$249.00	\$249.00
3. Monitor Well Sampling (M wells, every 2 months)														
# of Wells		0	0	37	0	0	17	10	26	48	45	20	28	0
Total # samples		0	0	222	0	0	102	60	156	288	270	120	168	0
UCL Parameters (\$/sample)		\$30.00	\$30.00	\$30.00	\$30.00	\$30.00	\$30.00	\$30.00	\$30.00	\$30.00	\$30.00	\$30.00	\$30.00	\$30.00
Subtotal Stability Monitoring Costs per Mine Unit		\$0.00	\$0.00	\$46,500.00	\$0.00	\$13,695.00	\$14,265.00	\$8,025.00	\$40,785.00	\$34,785.00	\$23,040.00	\$11,070.00	\$19,980.00	\$0.00
Total Stability Monitoring Costs		\$212,145.00												
<b>D. Other Laboratory Costs</b>														
Radon, Bioassay, etc.		\$0	\$0	\$39,600	\$39,600	\$39,600	\$39,600	\$39,600	\$79,200	\$184,800	\$79,200	\$105,600	\$132,000	\$0
Subtotal Monitoring and Sampling Costs per Mine Unit		\$0	\$0	\$130,860	\$39,600	\$59,895	\$67,185	\$56,385	\$209,385	\$771,114	\$223,308	\$181,164	\$369,888	\$0
<b>Total Monitoring and Sampling Costs</b>		<b>\$2,108,784</b>												
<b>VII. Header House Heating Costs</b>														
Number of Header Houses per Unit(s)		5	18	20	0	0	4	3	15	45	10	6	9	0
Pre-Restoration and Restoration Period (yrs)		0	0	2	2	2	2	2	5	13	5	7	9	0
Electrical Heating Costs (\$/yr)		\$3,222	\$3,222	\$3,222	\$3,222	\$3,222	\$3,222	\$3,222	\$3,222	\$3,222	\$3,222	\$3,222	\$3,222	\$3,222
Subtotal Header House Heating Cost per Wellfield		\$0	\$0	\$128,876	\$0	\$0	\$25,775	\$19,331	\$241,642	\$1,884,809	\$161,095	\$135,320	\$260,973	\$0
<b>Total Header House Heating Costs</b>		<b>\$2,857,821</b>												
<b>TOTAL RESTORATION COST PER WELLFIELD</b>		<b>\$0</b>	<b>\$0</b>	<b>\$624,350</b>	<b>\$71,007</b>	<b>\$59,895</b>	<b>\$155,698</b>	<b>\$106,393</b>	<b>\$1,694,234</b>	<b>\$9,559,747</b>	<b>\$1,982,261</b>	<b>\$2,433,697</b>	<b>\$2,151,155</b>	<b>\$0</b>
<b>TOTAL WELLFIELD RESTORATION COST</b>		<b>\$18,838,437</b>												



**Cameco Resources  
Highland Uranium Project  
2013-14 Surety Estimate**

Ground Water Restoration - Site Wide				Deep Disposal Wells			
I.	Building Utility Costs	Satellite No.2	Selenium Plant	Satellite No.3	Morton 1-20	Vollman 33-27	SRHUP #9
	Assumptions:						
	Electricity Unit Cost (\$/yr)	\$26,221	\$37,619	\$26,221	\$4,225	\$4,225	\$4,225
	Propane (\$/yr)	\$1,762	\$1,762	\$69,132	\$0	\$0	\$0
	Natural Gas (\$/yr)	\$12,828	\$12,828	\$0	\$0	\$0	\$0
	Number of Years	7	18	14	18	18	18
	Subtotal Utility Cost per Building	\$285,679	\$939,768	\$1,334,950	\$76,042	\$76,042	\$76,042
	*Yrs for Satellite No. 2 assumes end of restoration for MU-I						
	*Yrs for Satellite No. 3 assumes end of restoration for MU-K-North						
	Total Building Utility Costs	\$2,788,524					
II.	Irrigation Maintenance and Monitoring	Irrigator No. 1A	Irrigator No. 2				
	A. Phytoremediation Study						
	Phytoremediation Study, PPCU	\$0	\$40,000	*Based on two year contract (2013)			
	Phytoremediation Study, University of Wyoming	\$0	\$82,080	*Based on two year proposal (2012)			
	Subtotal Phytoremediation Studies	\$0	\$122,080				
	B. Harvesting Costs						
	Irrigation Area (acres)	55	106				
	Harvesting Costs (\$/acre)	\$250	\$250				
	Restoration Period (yrs)	18		* Based on timeline to support Smith Ranch restoration activities			
	Subtotal Harvesting Costs per Irrigator	\$247,500	\$477,000				
	C. Irrigation Monitoring						
	# of Irrigation Fluid Samples/Year	6	6				
	\$/sample	\$245	\$245				
	# of Vegetation Samples/Year	5	5				
	\$/sample	\$270	\$270				
	# of Soil Samples/Year	30	34				
	\$/sample	\$255	\$255				
	# of Soil Water Samples/Year	12	2				
	\$/sample	\$150	\$150				
	Restoration Period (yrs)	18		* Based on timeline to support Smith Ranch restoration activities			
	Subtotal Monitoring Costs per Irrigator	\$220,860	\$212,220				
	Subtotal Monitoring and Harvesting Costs per Irrigator	\$468,360	\$811,300				
	Total Maintenance and Monitoring Costs	\$1,279,660					
III.	Selenium Plant Operation Costs						
	Restoration Period (yrs)	18		* Based on timeline to support Smith Ranch restoration activities			
	Selenium Plant Operating Cost (\$/yr)	\$157,852					
	Total Selenium Plant Operating Cost	\$2,841,339					
IV.	Booster Pump Operation Costs						
	Restoration Period (yrs)	13					

**Cameco Resources  
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	<u>Booster Pump Operating Cost (\$/yr)</u>	\$34,658.36				
	<b>Total Booster Pump Operating Cost</b>	<b>\$450,559</b>				
<b>V.</b>	<b>Infrastructure, Equipment Maintenance,</b>					
	<b>Replacement and Repair Costs</b>					
	Annual Maintenance Cost (\$/yr)	\$92,320		*Based on planned expenditures (2013)		
	Restoration Period (yrs)	13				
	<b>Total Cost</b>	<b>\$1,200,160</b>				
<b>VI.</b>	<b>Deep Disposal Well MIT Costs</b>					
	<u>Five-year MIT Costs for Disposal Wells</u>	\$31,625.00				
	Number of DDWs	3				
	Number of MITs per DDW	3		* Based on timeline to support Smith Ranch restoration activities		
	<b>Total DDW MIT Cost</b>	<b>\$284,625</b>				
<b>VII.</b>	<b>Capital Costs</b>					
	*Estimates based on planned expenditures (2013)					
	Irrigator No. 1 Pivot Replacement	\$906,000				
	SR-HUP Connecting Pipeline	\$532,752				
	<b>Total Capital Costs</b>	<b>\$1,438,752</b>				
<b>VIII.</b>	<b>Vehicle Operation Costs</b>					
	Number of Pickup Trucks (Gas)	10				
	<u>Truck Cost (\$/hr)</u>	\$22.14				
	Average Operating Time (hrs/yr)	1000				
	Restoration and Stability Period (yrs)	14				
	<b>Total Vehicle Operation Cost</b>	<b>\$3,100,020</b>				
<b>IX.</b>	<b>Labor Costs</b>					
	Assumptions:					
	Number of Environmental Managers/RSOs	0.5		*Management positions split between Highland and Smith Ranch		
	\$/hr	\$64.40				
	Number of Restoration Managers	0.5		*Management positions split between Highland and Smith Ranch		
	\$/hr	\$56.00				
	Number of Environmental Techs/HPTs	2				
	\$/hr	\$35.00				
	Number of Operators/Laborers	7				
	\$/hr	\$36.40				
	Number of Maintenance Technicians	2				
	\$/hr	\$32.20				
	Hrs/yr	2080				
	Restoration and Stability Period (yrs)	14				
	<b>Total Labor Cost</b>	<b>\$13,086,528</b>				
<b>TOTAL SITE-WIDE RESTORATION COSTS</b>		<b>\$26,470,167</b>				



**Cameco Resources  
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Well and Drill Hole Abandonment	A-Wellfield	B-Wellfield	C-Wellfield	C-22 Pattern	C Haul Drifts	D-Wellfield	D-Extension	E-Wellfield	F-Wellfield	H-Wellfield	I-Wellfield	J-Wellfield	J-Extension	Other
<b>I. Well Abandonment (Wellfields)</b>														
A. Sealing Costs				Inc in MU-C	Inc in MU-C		Inc in MU-D							
Total # of Wells per Wellfield	8	392	567	0	0	288	0	438	1470	544	448	410	40	3
Production, Injection and Perimeter Well Average Depth (ft)	500	450	550	550	550	600	600	550	650	500	650	540	540	650
Well Abandonment (Sealing) Costs (\$/ft)	\$2.75	\$2.75	\$2.75	\$2.75	\$2.75	\$2.75	\$2.75	\$2.75	\$2.75	\$2.75	\$2.75	\$2.75	\$2.75	\$2.75
Subtotal Sealing Costs per Wellfield	\$11,000	\$485,100	\$857,588	\$0	\$0	\$475,200	\$0	\$662,475	\$2,627,625	\$748,000	\$800,800	\$608,850	\$59,400	\$5,363
B. Casing Removal and Disposal Costs														
Total # of Wells per Wellfield	8	392	567	0	0	288	0	438	1470	544	448	410	40	3
# of Previously Abandoned Wells Pending Release	54	118	180	0	0	86	0	271	330	50	40	20	0	0
Total # of Wells for Casing Removal and Disposal	62	510	747	0	0	374	0	709	1800	594	488	430	40	3
Remove and Dispose Casing (\$/well)	\$33	\$33	\$33	\$33	\$33	\$33	\$33	\$33	\$33	\$33	\$33	\$33	\$33	\$33
Subtotal Casing Removal and Disposal Costs per Wellfield	\$2,046	\$16,830	\$24,651	\$0	\$0	\$12,342	\$0	\$23,397	\$59,400	\$19,602	\$16,104	\$14,190	\$1,320	\$99
Subtotal Well Abandonment Costs per Wellfield	\$13,046	\$501,930	\$882,239	\$0	\$0	\$487,542	\$0	\$685,872	\$2,687,025	\$767,602	\$816,904	\$623,040	\$60,720	\$5,462
<b>Total Well Abandonment Costs</b>	<b>\$7,531,382</b>													
<b>II. Removal of Contaminated Soil Around Wells</b>														
# of Production and Injection Wells	1	327	464	0	0	234	0	379	1343	466	412	365	0	
Removal of Contaminated Soil Around Wells (\$/well)	\$85.46	\$85.46	\$85.46	\$85.46	\$85.46	\$85.46	\$85.46	\$85.46	\$85.46	\$85.46	\$85.46	\$85.46	\$85.46	
Subtotal Contaminated Soil Removal/Disposal Costs per Wellfield	\$85	\$27,944	\$39,652	\$0	\$0	\$19,997	\$0	\$32,388	\$114,769	\$39,823	\$35,208	\$31,192	\$0	
<b>Total Contaminated Soil Removal/Disposal Costs</b>	<b>\$341,058</b>													
<b>III. Drill Hole Abandonment</b>														
A. Revegetation Contingency														
2011-12 Drilling Program (# holes)	195													
2012-13 Drilling Program (# holes)	95													
Small Site Grading and Seeding (\$/site)	\$55													
Subtotal Revegetation Contingency Costs	\$15,950													
B. Drill Hole Plug and Abandonment														
2013-14 Proposed Drilling Program (# holes)	300													
Average Depth (ft)	800													
Site Location (\$/hole)	\$11													
Hole Abandonment (\$/ft)	\$3.30													
Capping (\$/hole)	\$11													
Small Site Grading and Seeding (\$/site)	\$55													
Subtotal Drill Hole Plug and Abandonment Costs	\$815,100													
<b>Total Delineation Hole Abandonment</b>	<b>\$831,050</b>													
<b>IV. Waste Disposal Well Abandonment</b>	<b>Morton No. 1-20</b>	<b>Vollman No. 33-27</b>	<b>SRHUP # 9</b>											
A. Well Sealing														
Total Depth of Well	9,206	14,412	9,500											
Sealing Cost Per Foot	\$13.62	\$13.62	\$13.62											
*Sealing costs per foot includes surface reclamation costs														
Subtotal Plugging Costs per Well	\$125,386	\$196,291	\$129,390											
B. Pump Dismantling and Decontamination														
Number of Pumps	2	2	2											
Pump Dismantling and Disposal Cost	\$2,788	\$2,788	\$2,788											
Subtotal Dismantling and Decon Costs per Well	\$5,576.06	\$5,576.06	\$5,576.06											
C. Tubing String Disposal (NRC-Licensed Facility)														
Length of Tubing String (ft)	8,498	8,869	8,820											
Diameter of Tubing String (inches)	2.875	2.875	2.875											
Volume of Tubing String (ft³)	383	400	397											
Transportation and Disposal Unit Cost (\$/ft³)	\$7.32	\$7.32	\$7.32											
Subtotal Tubing String Disposal Costs per Well	\$2,804	\$2,927	\$2,911											
Subtotal Waste Disposal Well Abandonment Costs per Well	\$133,766	\$204,795	\$137,877											
<b>Total Waste Disposal Well Abandonment Costs</b>	<b>\$476,438</b>													
<b>TOTAL WELL AND DRILL HOLE ABANDONMENT COSTS</b>	<b>\$9,179,928</b>													



**Cameco Resources  
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Wellfield Buildings and Equipment Removal and Disposal		A-Wellfield	B-Wellfield	C-Wellfield	C-22 Pattern	C Haul Drifts	D-Wellfield	D-Extension	E-Wellfield	F-Wellfield	H-Wellfield	I-Wellfield	J-Wellfield	J-Extension
<b>I. Wellfield Piping</b>					Inc in MU-C	Inc in MU-C								
	Number of Header Houses per Wellfield	5	18	20	0	0	4	3	15	45	10	6	9	0
	Approximate Length of Piping per Header House (ft)	13,800	13,800	13,800	13,800	13,800	13,800	13,800	13,800	13,800	13,800	13,800	13,800	13,800
	*average 46 wells per with 300 ft pipeline/well													
	Approximate Total Length of Piping (ft)	69,000	248,400	276,000	0	0	55,200	41,400	207,000	621,000	138,000	82,800	124,200	0
A.	Removal and Loading													
	Wellfield Piping Removal Unit Cost (\$/ft of pipe)	\$1.86	\$1.86	\$1.86	\$1.86	\$1.86	\$1.86	\$1.86	\$1.86	\$1.86	\$1.86	\$1.86	\$1.86	\$1.86
	Subtotal Wellfield Piping Removal and Loading Costs	\$128,109	\$461,192	\$512,436	\$0	\$0	\$102,487	\$76,865	\$384,327	\$1,152,980	\$256,218	\$153,731	\$230,596	\$0
B.	Transport and Disposal Costs (NRC-Licensed Facility)													
	Average Diameter of Piping (inches)	2	2	2	2	2	2	2	2	2	2	2	2	2
	Chipped Volume Reduction (ft <sup>3</sup> /ft)	0.011	0.011	0.011	0.011	0.011	0.011	0.011	0.011	0.011	0.011	0.011	0.011	0.011
	Chipped Volume per Wellfield (ft <sup>3</sup> )	740	2663	2959	0	0	592	444	2219	6658	1480	888	1332	0
	Volume for Disposal Assuming 10% Void Space (ft <sup>3</sup> )	814	2930	3255	0	0	651	488	2441	7324	1628	977	1465	0
	Transportation and Disposal Unit Cost (\$/ft <sup>3</sup> )	\$5.77	\$5.77	\$5.77	\$5.77	\$5.77	\$5.77	\$5.77	\$5.77	\$5.77	\$5.77	\$5.77	\$5.77	\$5.77
	Subtotal Wellfield Piping Transport and Disposal Costs	\$4,697	\$16,905	\$18,781	\$0	\$0	\$3,756	\$2,816	\$14,084	\$42,258	\$9,393	\$5,637	\$8,453	\$0
	Subtotal Wellfield Piping Costs per Wellfield	\$132,806	\$478,097	\$531,217	\$0	\$0	\$106,243	\$79,681	\$398,411	\$1,195,238	\$265,611	\$159,368	\$239,049	\$0
	<b>Total Wellfield Piping Costs</b>	<b>\$3,585,720</b>												
<b>II. Well Pumps and Downhole Tubing</b>														
	Assumptions: Pump and tubing removal costs included under ground water restoration labor													
	60% of production/injection wells contain pumps and/or tubing													
A.	Pump and Tubing Transportation and Disposal				Inc in MU-C	Inc in MU-C		Inc in MU-D						
	Number of Production Wells	0	133	204	0	0	91	0	145	549	174	155	123	0
	Number of Injection Wells	1	194	261	0	0	143	0	234	794	293	258	242	0
	Number of Monitor Wells	7	64	85	0	0	50	0	59	113	74	34	45	40
1.	Pump Volume													
	Number of Production Wells with Pumps	0	133	203.5	0	0	91	0	145	549	173.5	154.5	123	0
	Pump Volume (ft <sup>3</sup> )	0.43	0.43	0.43	0.43	0.43	0.43	0.43	0.43	0.43	0.43	0.43	0.43	0.43
	Pump Volume per Wellfield (ft <sup>3</sup> )	0.0	57.6	88.1	0.0	0.0	39.4	0.0	62.8	237.8	75.2	66.9	53.3	0.0
2.	Tubing Volume													
	Average Tubing Length per Well (ft)	475	425	525	525	525	575	575	525	625	475	625	515	515
	*Average tubing length/wellfield based on average well depth minus 25 ft													
	Number of Production Wells with Tubing	0	80	122	0	0	55	0	87	329	104	93	74	0
	Number of Injection Wells with Tubing	1	116	156	0	0	86	0	140	476	176	155	145	0
	Tubing Length per Wellfield (ft)	3,800	110,500	190,575	0	0	109,825	0	150,150	573,750	168,150	176,250	135,960	20,600
	Diameter of Production Well Fiberglass Tubing (inches)	2	2	2	2	2	2	2	2	2	2	2	2	2
	Diameter of Injection Well HDPE Tubing (inches)	1.25	1.25	1.25	1.25	1.25	1.25	1.25	1.25	1.25	1.25	1.25	1.25	1.25
	Chipped Volume Reduction (ft <sup>3</sup> /ft)	0.011	0.011	0.011	0.011	0.011	0.011	0.011	0.011	0.011	0.011	0.011	0.011	0.011
	Chipped Volume per Wellfield (ft <sup>3</sup> )	41	1185	2043	0	0	1177	0	1610	6151	1803	1890	1458	221
	Volume of Pump and Tubing (ft <sup>3</sup> )	41	1243	2131	0	0	1216	0	1673	6389	1878	1957	1511	221
	Volume for Disposal Assuming Void Space (ft <sup>3</sup> )	45	1367	2344	0	0	1338	0	1840	7028	2066	2153	1662	243
	Transportation and Disposal Unit Cost (\$/ft <sup>3</sup> )	\$5.77	\$5.77	\$5.77	\$5.77	\$5.77	\$5.77	\$5.77	\$5.77	\$5.77	\$5.77	\$5.77	\$5.77	\$5.77
	Subtotal Pump and Tubing Transport and Disposal Costs Per Wellfield	\$260	\$7,887	\$13,524	\$0	\$0	\$7,720	\$0	\$10,616	\$40,550	\$11,920	\$12,422	\$9,589	\$1,402
	<b>Total Pump and Downhole Tubing Costs</b>	<b>\$115,890</b>												
<b>III. Buried Trunkline (Includes \$ for fiber optic cable removal)</b>														
	Assumptions:													
	Length of Trunkline Trench (ft)	6500	0	5900	0	0	12000	5500	0	11700	13200	10750	2500	0
A.	Removal and Loading													
	Main Pipeline Removal Unit Cost (\$/ft of trench)	\$3.71	\$3.71	\$3.71	\$3.71	\$3.71	\$3.71	\$3.71	\$3.71	\$3.71	\$3.71	\$3.71	\$3.71	\$3.71
	Subtotal Trunkline Removal and Loading Costs	\$24,136	\$0	\$21,908	\$0	\$0	\$44,560	\$20,423	\$0	\$43,446	\$49,016	\$39,918	\$9,283	\$0
B.	Transport and Disposal Costs (NRC-Licensed Facility)													
1.	3" HDPE Trunkline													
	Piping Length (ft)	6500	0	5900	0	0	12000	5500	0	11700	13200	10750	0	0
	Chipped Volume per Lft (ft <sup>3</sup> /ft)	0.023	0.023	0.023	0.023	0.023	0.023	0.023	0.023	0.023	0.023	0.023	0.023	0.023
	Chipped Volume (ft <sup>3</sup> )	151	0	137	0	0	279	128	0	272	307	250	0	0
2.	6" HDPE Trunkline													
	Piping Length (ft)	0	0	0	0	0	0	11000	0	0	0	3000	0	0
	Chipped Volume per Lft (ft <sup>3</sup> /ft)	0.083	0.083	0.083	0.083	0.083	0.083	0.083	0.083	0.083	0.083	0.083	0.083	0.083



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Wellfield Buildings and Equipment Removal and Disposal		A-Wellfield	B-Wellfield	C-Wellfield	C-22 Pattern	C Haul Drifts	D-Wellfield	D-Extension	E-Wellfield	F-Wellfield	H-Wellfield	I-Wellfield	J-Wellfield	J-Extension
	Chipped Volume (ft <sup>3</sup> )	0	0	0	0	0	0	917	0	0	0	250	0	0
3.	10" HDPE Trunkline													
	Piping Length (ft)	13000	0	0	0	0	0	0	0	0	0	750	2000	0
	Chipped Volume per L ft (ft <sup>3</sup> /ft)	0.220	0.220	0.220	0.220	0.220	0.220	0.220	0.220	0.220	0.220	0.220	0.220	0.220
	Chipped Volume (ft <sup>3</sup> )	2854	0	0	0	0	0	0	0	0	0	165	439	0
4.	12" HDPE Trunkline													
	Piping Length (ft)	0	0	11800	0	0	24000	0	0	0	0	0	2000	0
	Chipped Volume per L ft (ft <sup>3</sup> /ft)	0.309	0.309	0.309	0.309	0.309	0.309	0.309	0.309	0.309	0.309	0.309	0.309	0.309
	Chipped Volume (ft <sup>3</sup> )	0	0	3644	0	0	7411	0	0	0	0	0	618	0
5.	14" HDPE Trunkline													
	Piping Length (ft)	0	0	0	0	0	0	0	0	23400	26400	8500	0	0
	Chipped Volume per L ft (ft <sup>3</sup> /ft)	0.372	0.372	0.372	0.372	0.372	0.372	0.372	0.372	0.372	0.372	0.372	0.372	0.372
	Chipped Volume (ft <sup>3</sup> )	0	0	0	0	0	0	0	0	8712	9829	3165	0	0
6.	16" HDPE Trunkline													
	Piping Length (ft)	0	0	0	0	0	0	0	0	23400	26400	8500	0	0
	Chipped Volume per L ft (ft <sup>3</sup> /ft)	0.486	0.486	0.486	0.486	0.486	0.486	0.486	0.486	0.486	0.486	0.486	0.486	0.486
	Chipped Volume (ft <sup>3</sup> )	0	0	0	0	0	0	0	0	11381	12841	4134	0	0
	Total Trunkline Chipped Volume (ft <sup>3</sup> )	3006	0	3781	0	0	7691	1045	0	20366	22977	7964	1057	0
	Volume for Disposal Assuming 10% Void Space (ft <sup>3</sup> )	3306	0	4159	0	0	8460	1150	0	22403	25275	8761	1162	0
	Transportation and Disposal Unit Cost (\$/ft <sup>3</sup> )	\$5.77	\$5.77	\$5.77	\$5.77	\$5.77	\$5.77	\$5.77	\$5.77	\$5.77	\$5.77	\$5.77	\$5.77	\$5.77
	Subtotal Trunkline Transport and Disposal Costs	\$19,075	\$0	\$23,996	\$0	\$0	\$48,812	\$6,635	\$0	\$129,260	\$145,831	\$50,549	\$6,704	\$0
	Subtotal Trunkline Decommissioning Costs per Wellfield	\$43,211	\$0	\$45,904	\$0	\$0	\$93,372	\$27,058	\$0	\$172,706	\$194,847	\$90,467	\$15,987	\$0
<b>Total Trunkline Decommissioning Costs</b>		<b>\$683,552</b>												
<b>IV. Wellhead Cover Removal</b>					Inc in MU-C	Inc in MU-C								
	Number of Production and Injection Wells	1	327	459	0	0	234	0	369	1163	451	365	347	0
	Well Head Removal, Decontamination, and Disposal Cost	\$11.72	\$11.72	\$11.72	\$11.72	\$11.72	\$11.72	\$11.72	\$11.72	\$11.72	\$11.72	\$11.72	\$11.72	\$11.72
	Subtotal Wellhead Removal Costs	\$11.72	\$3,832.70	\$5,379.85	\$0.00	\$0.00	\$2,742.67	\$0.00	\$4,324.98	\$13,631.29	\$5,286.08	\$4,278.09	\$4,067.12	\$0.00
<b>Total Wellhead Cover Removal Costs</b>		<b>\$43,554</b>												
<b>IV. Header Houses (Includes Booster Stations)</b>					Inc in MU-C	Inc in MU-C								
	Total Quantity	5	18	20	0	0	4	3	15	45	10	6	9	0
	Average Header House Volume (ft <sup>3</sup> )	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600
A.	Removal													
	Total Volume (ft <sup>3</sup> )	8000	28800	32000	0	0	6400	4800	24000	72000	16000	9600	14400	0
	Demolition Cost	\$0.306	\$0.306	\$0.306	\$0.306	\$0.306	\$0.306	\$0.306	\$0.306	\$0.306	\$0.306	\$0.306	\$0.306	\$0.306
	Subtotal Building Demolition Costs	\$2,446	\$8,807	\$9,786	\$0	\$0	\$1,957	\$1,468	\$7,339	\$22,018	\$4,893	\$2,936	\$4,404	\$0
B.	Survey and Decontamination													
	Cost per Header House	\$621	\$621	\$621	\$621	\$621	\$621	\$621	\$621	\$621	\$621	\$621	\$621	\$621
	Subtotal Survey and Decontamination Costs	\$3,107	\$11,185	\$12,428	\$0	\$0	\$2,486	\$1,864	\$9,321	\$27,962	\$6,214	\$3,728	\$5,592	\$0
C.	Disposal													
	Total Volume for Disposal - Incl. 33% Factor (cy)	98	352	391	0	0	78	59	293	880	196	117	176	0
	Volume for Disposal Assuming Void Space (cy)	108	387	430	0	0	86	65	323	968	215	129	194	0
	Disposal Cost, Landfill (cy)	\$42.17	\$42.17	\$42.17	\$42.17	\$42.17	\$42.17	\$42.17	\$42.17	\$42.17	\$42.17	\$42.17	\$42.17	\$42.17
	Subtotal County Landfill Disposal Costs	\$4,554	\$16,319	\$18,132	\$0	\$0	\$3,626	\$2,741	\$13,620	\$40,817	\$9,066	\$5,440	\$8,180	\$0
	Headerhouse Soil Removal Volume (assumes 10'Wx20'Lx2.5'D)	500	500	500	500	500	500	500	500	500	500	500	500	500
	11e(2) Disposal Cost (ft <sup>3</sup> )	\$5.80	\$5.80	\$5.80	\$5.80	\$5.80	\$5.80	\$5.80	\$5.80	\$5.80	\$5.80	\$5.80	\$5.80	\$5.80
	Subtotal 11(e)2 Disposal Cost	\$14,512	\$52,243	\$58,048	\$0	\$0	\$11,610	\$8,707	\$43,536	\$130,608	\$29,024	\$17,414	\$26,122	\$0
	Subtotal Header House Removal and Disposal Costs per Wellfield	\$24,619	\$88,554	\$98,394	\$0	\$0	\$19,679	\$14,780	\$73,816	\$221,405	\$49,197	\$29,518	\$44,298	\$0
<b>Total Header House Removal and Disposal Costs</b>		<b>\$664,261</b>												
<b>TOTAL REMOVAL AND DISPOSAL COSTS PER WELLFIELD</b>		<b>\$200,908</b>	<b>\$578,371</b>	<b>\$694,419</b>	<b>\$0</b>	<b>\$0</b>	<b>\$229,756</b>	<b>\$121,520</b>	<b>\$487,168</b>	<b>\$1,643,531</b>	<b>\$526,861</b>	<b>\$296,053</b>	<b>\$312,990</b>	<b>\$1,402</b>
<b>TOTAL WELLFIELD BUILDINGS AND EQUIPMENT REMOVAL</b>		<b>\$5,091,576</b>												



**Cameco Resources  
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Wellfield and Satellite Surface Reclamation		Mine Unit-A/B	Mine Unit-C	Mine Unit-D	Mine Unit-E	Mine Unit-F	Mine Unit-H	D-Extension	Mine Unit-I	Mine Unit-J	J-Extension
<b>I. Wellfield Pattern Area Reclamation</b>											
Pattern Area (acres)		37.9	63.9	15.0	44.6	157.6	56.1	9.3	52.7	52.7	0.0
*Assumes wellfield pattern area X 2											
Discing/Seeding Unit Cost (\$/acre)		\$548	\$548	\$548	\$548	\$548	\$548	\$548	\$548	\$548	\$548
Subtotal Pattern Area Reclamation Costs per Wellfield		\$20,746	\$35,007	\$8,215	\$24,437	\$86,302	\$30,746	\$5,071	\$28,840	\$28,884	\$0
<b>Total Wellfield Pattern Area Reclamation Costs</b>		<b>\$268,248</b>									
<b>II. Wellfield Road Reclamation</b>											
Road Construction											
Length of Wellfield Roads (1000 ft)		12.8	11.3	2.4	13.3	18	15.7	5	5	5	5
Wellfield Road Reclamation Unit Cost (\$/1000 ft)		\$1,416	\$1,416	\$1,416	\$1,416	\$1,416	\$1,416	\$1,416	\$1,416	\$1,416	\$1,416
Subtotal Wellfield Road Reclamation Costs		\$18,129	\$16,004	\$3,399	\$18,837	\$25,494	\$22,236	\$7,082	\$7,082	\$7,082	\$7,082
<b>Total Wellfield Road Reclamation Costs</b>		<b>\$132,427</b>									
<b>III. Laydown area reclamation</b>											
Area of Disturbance (acres)		1	1	1	1	1	1	1	1	1	1
Average Depth of Stripped Topsoil (ft)		0.67	0.67	0.67	0.67	0.67	0.67	0.67	0.67	0.67	0.67
Surface Grade: Level Ground											
Average Length of Topsoil Haul (ft)		500	500	500	500	500	500	500	500	500	500
A. Ripping Overburden with Dozer											
Ripping Cost (per acre)		\$1,331	\$1,331	\$1,331	\$1,331	\$1,331	\$1,331	\$1,331	\$1,331	\$1,331	\$1,331
Subtotal Ripping Costs		\$1,331	\$1,331	\$1,331	\$1,331	\$1,331	\$1,331	\$1,331	\$1,331	\$1,331	\$1,331
B. Topsoil Application with Scraper											
Volume of Topsoil Removed (cy)		1081	1081	1081	1081	1081	1081	1081	1081	1081	1081
Moving Materials (0% Grade)		\$1.19	\$1.19	\$1.19	\$1.19	\$1.19	\$1.19	\$1.19	\$1.19	\$1.19	\$1.19
Subtotal Topsoil Application Costs		\$1,284	\$1,284	\$1,284	\$1,284	\$1,284	\$1,284	\$1,284	\$1,284	\$1,284	\$1,284
C. Discing and Seeding											
Discing/Seeding Unit Cost (\$/acre)		\$548	\$548	\$548	\$548	\$548	\$548	\$548	\$548	\$548	\$548
Subtotal Discing/Seeding Costs		\$548	\$548	\$548	\$548	\$548	\$548	\$548	\$548	\$548	\$548
Subtotal Surface Reclamation Costs per WF laydown area		\$3,163	\$3,163	\$3,163	\$3,163	\$3,163	\$3,163	\$3,163	\$3,163	\$3,163	\$3,163
<b>Total Wellfield Laydown Area Reclamation Costs</b>		<b>\$31,630</b>									
<b>IV. Fence Removal</b>											
Length of Fencing (ft)		0	18,694	14,060	0	18,426	29,540	9,680	0	9,977	0
Fence Removal Costs		\$0.35	\$0.35	\$0.35	\$0.35	\$0.35	\$0.35	\$0.35	\$0.35	\$0.35	\$0.35
Subtotal Fence Removal Costs per Wellfield		\$0	\$6,580	\$4,949	\$0	\$6,486	\$10,398	\$3,407	\$0	\$3,512	\$0
<b>Total Fence Removal Costs</b>		<b>\$35,333</b>									
<b>SUBTOTAL SURFACE RECLAMATION COSTS PER WELLFIELD</b>		<b>\$42,038</b>	<b>\$60,754</b>	<b>\$19,726</b>	<b>\$46,437</b>	<b>\$121,445</b>	<b>\$66,543</b>	<b>\$18,723</b>	<b>\$39,085</b>	<b>\$42,641</b>	<b>\$10,245</b>
<b>TOTAL WELLFIELD SURFACE RECLAMATION COSTS</b>		<b>\$467,638</b>									
<b>V. Satellite Area Reclamation</b>		Satellite No.1	Satellite No.2	Satellite No.3	Se Plant						
Assumptions:											
Area of Disturbance (acres)		1	3	2.5	2						
Average Depth of Stripped Topsoil (ft)		1	0.67	0.67	0.67						
Surface Grade: Level Ground											
Average Length of Topsoil Haul (ft)		1000	500	500	500						
A. Ripping Overburden with Dozer											
Ripping Cost (per acre)		\$1,330.59	\$1,330.59	\$1,330.59	\$1,330.59						
Subtotal Ripping Costs		\$1,331.00	\$3,992.00	\$3,326	\$2,661						
B. Topsoil Application with Scraper											
Volume of Topsoil Removed (cy)		1613	3243	2702	2162						
Moving Materials (0% Grade)		\$1.42	\$1.42	\$1.42	\$1.42						
Subtotal Topsoil Application Costs		\$2,288	\$4,598	\$3,832	\$3,065						
C. Discing and Seeding											
Discing/Seeding Unit Cost (\$/acre)		\$548	\$548	\$548	\$548						
Subtotal Discing/Seeding Costs		\$548	\$1,643	\$1,369	\$1,095						
Subtotal Surface Reclamation Costs per Satellite		\$4,167	\$10,233	\$8,527	\$6,821						
<b>Total Satellite Building Area Reclamation Costs</b>		<b>\$29,748</b>									
<b>TOTAL WELLFIELD &amp; SATELLITE SURFACE RECLAMATION COSTS</b>		<b>\$497,386</b>									



**Cameco Resources  
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Equipment Removal and Loading			Central Plant	Satellite No. 1	Satellite No. 2	Satellite No. 3	Selenium Plant
<b>I. Removal and Loading Costs</b>							
A.	Tankage						
	Number of Tanks		39	8	14	18	7
	Volume of Tank Construction Material (ft <sup>3</sup> )		1629	162	290	397	290
	<u>Tank Removal Cost</u>		\$144.12	\$144.12	\$144.12	\$144.12	\$144.12
	Subtotal Tankage Removal and Loading Costs		\$234,773	\$23,348	\$41,795	\$57,216	\$41,795
B.	PVC/Steel Pipe						
	PVC Pipe Footage		12996	1000	4000	4000	4000
	Average PVC Pipe Diameter (inches)		3	3	3	3	3
	<u>Shredded PVC Pipe Volume Reduction (ft<sup>3</sup>/ft)</u>		0.023	0.023	0.023	0.023	0.023
	Volume of Shredded PVC Pipe (ft <sup>3</sup> )		303	23	93	93	93
	Steel Pipe Footage		645	0	0	0	0
	Average Steel Pipe Diameter (inches)		2	0	0	0	0
	Volume (ft <sup>3</sup> )		15	0	0	0	0
	<u>Pipe Removal Cost</u>		\$8.93	\$8.93	\$8.93	\$8.93	\$8.93
	Subtotal PVC/Steel Pipe Labor & Equipment Costs		\$121,803	\$8,929	\$35,717	\$35,717	\$35,717
C.	Pumps						
	Number of Pumps		52	10	14	13	14
	Average Volume (ft <sup>3</sup> /pump)		4.93	4.93	4.93	4.93	4.93
	Volume of Pumps (ft <sup>3</sup> )		256.36	49.3	69.02	64.09	69.02
	<u>Pump Removal Cost</u>		\$108.14	\$108.14	\$108.14	\$108.14	\$108.14
	Subtotal Pump Removal and Loading Costs		\$27,722	\$5,331	\$7,464	\$6,930	\$7,464
D.	Dryer						
	Dryer Volume (ft <sup>3</sup> )		885	0	0	0	0
	<u>Dryer Removal Cost</u>		\$14.71	\$14.71	\$14.71	\$14.71	\$14.71
	Subtotal Dryer Removal Costs		\$13,017	\$0	\$0	\$0	\$0
E.	RO and Degasser Units						
	Number of RO Units (500 gpm)						
	Current		0	0	2.5	0	0
	Planned		0	0	0	0	0
	Number of Degasser Units						
	Current		0	0	0	0	1
	Planned		0	0	0	0	0
	RO/Degasser Average Volume (ft <sup>3</sup> /Unit)		250	250	250	250	250
	<u>RO and Degasser Removal Cost</u>		\$5.02	\$5.02	\$5.02	\$5.02	\$5.02
	Subtotal RO Unit Removal and Loading Costs		\$0	\$0	\$3,141	\$0	\$1,256
	Subtotal Equipment Removal and Loading Costs per Facility		\$397,315	\$37,608	\$88,116	\$99,863	\$86,231
<b>Total Equipment Removal and Loading Costs</b>			<b>\$709,133</b>				

**Cameco Resources  
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Equipment Removal and Loading			Central Plant	Satellite No. 1	Satellite No. 2	Satellite No. 3	Selenium Plant
<b>II. Transportation and Disposal Costs (NRC-Licensed Facility)</b>							
A.	Tankage						
	Volume of Tank Construction Material (ft <sup>3</sup> )		1629	162	290	397	290
	Volume for Disposal Assuming Void Space (ft <sup>3</sup> )		1792	178	319	437	319
	Transportation and Disposal Unit Cost (\$/ft <sup>3</sup> )		\$7.32	\$7.32	\$7.32	\$7.32	\$7.32
	Subtotal Tankage Transportation and Disposal Costs		\$13,124	\$1,304	\$2,336	\$3,200	\$2,336
B.	PVC / Steel Pipe						
	Volume of Shredded PVC Pipe (ft <sup>3</sup> )		303	23	93	93	93
	Volume for Disposal Assuming Void Space (ft <sup>3</sup> )		333	25	102	102	102
	Volume of Steel Pipe (ft <sup>3</sup> )		15	0	0	0	0
	Volume for Disposal Assuming Void Space (ft <sup>3</sup> )		17	0	0	0	0
	Transportation and Disposal Unit Cost (\$/ft <sup>3</sup> )		\$5.77	\$5.77	\$5.77	\$5.77	\$5.77
	Subtotal PVC Pipe Transportation and Disposal Costs		\$2,019	\$144	\$589	\$589	\$589
C.	Pumps						
	Volume of Pumps (ft <sup>3</sup> )		256.36	49.3	69.02	64.09	69.02
	Volume for Disposal Assuming Void Space (ft <sup>3</sup> )		282	54	76	70	76
	Transportation and Disposal Unit Cost (\$/ft <sup>3</sup> )		\$7.32	\$7.32	\$7.32	\$7.32	\$7.32
	Subtotal Pump Transportation and Disposal Costs		\$2,065	\$395	\$557	\$513	\$557
D.	Dryer						
	Dryer Volume (ft <sup>3</sup> )		885	0	0	0	0
	Volume for Disposal Assuming Dryer Remains Intact (ft <sup>3</sup> )		885	0	0	0	0
	Transportation and Disposal Unit Cost (\$/ft <sup>3</sup> )		\$7.32	\$7.32	\$7.32	\$7.32	\$7.32
	Subtotal Dryer Transportation and Disposal Costs		\$6,481	\$0	\$0	\$0	\$0
E.	RO/Degasser Units						
	Volume of RO/Degasser Units (ft <sup>3</sup> )		0	0	625	0	250
	Volume for Disposal Assuming Volume Reduction (ft <sup>3</sup> )		0	0	687.5	0	275
	Transportation and Disposal Unit Costs		\$7.32	\$7.32	\$7.32	\$7.32	\$7.32
	Subtotal RO Unit Transportation and Disposal Costs		\$0	\$0	\$5,035	\$0	\$2,014
	Subtotal Equipment Transportation and Disposal Costs per Facility		\$23,689	\$1,843	\$8,517	\$4,302	\$5,496
	<b>Total Equipment Transportation and Disposal Costs</b>		<b>\$43,847</b>				
<b>III. Health and Safety Costs</b>							
	Radiation Safety Equipment	Accounted for on GW REST					
	<b>Total Health and Safety Costs</b>						
SUBTOTAL EQUIPMENT REMOVAL AND DISPOSAL COSTS PER FACILITY			\$421,004	\$39,451	\$96,633	\$104,165	\$91,727
<b>TOTAL EQUIPMENT REMOVAL AND DISPOSAL COSTS</b>			<b>\$752,979</b>				



**Cameco Resources  
Highland Uranium Project  
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Building Demolition and Disposal				Central Plant	Dryer Building	Satellite No. 1	Satellite No. 2	Satellite No. 3	Sat. No. 3 Fab Shop	Yellowcake Warehouse	South Warehouse	Suspended Walkway	Changehouse and Lab	Process/ Fire Water	Potable Water Bldg
I.	Decontamination Costs														
A.	Wall Decontamination														
	Area to be Decontaminated (ft²)			131,000	20,000	0	0	0	0	0	0	0	0	0	0
	HCl Acid Wash, including labor (\$/ft2)			\$0.94	\$0.94	\$0.94	\$0.94	\$0.94	\$0.94	\$0.94	\$0.94	\$0.94	\$0.94	\$0.94	\$0.94
	Subtotal Wall Decontamination Costs			\$123,600	\$18,870	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
B.	Concrete Floor Decontamination														
	Area to be Decontaminated (ft²)			17,820	0	6,000	9,600	9,600	0	0	0	0	0	0	0
	HCl Acid Wash, including labor (\$/ft2)			\$0.53	\$0.53	\$0.53	\$0.53	\$0.53	\$0.53	\$0.53	\$0.53	\$0.53	\$0.53	\$0.53	\$0.53
	Subtotal Concrete Floor Decontamination Costs			\$9,358	\$0	\$3,151	\$5,042	\$5,042	\$0	\$0	\$0	\$0	\$0	\$0	\$0
C.	Deep Well Injection Costs														
	Total kgals for Injection (1 gal used per ft2)			148.82	20	6	9.6	9.6	0	0	0	0	0	0	0
	Deep Well Injection Unit Cost (\$/kgals)			\$1.06	\$1.06	\$1.06	\$1.06	\$1.06	\$1.06	\$1.06	\$1.06	\$1.06	\$1.06	\$1.06	\$1.06
	Subtotal Deep Well Injection Costs			\$157	\$21	\$6	\$10	\$10	\$0	\$0	\$0	\$0	\$0	\$0	\$0
	Subtotal Decontamination Costs per Building			\$133,115	\$18,891	\$3,157	\$5,052	\$5,052	\$0	\$0	\$0	\$0	\$0	\$0	\$0
	Total Decontamination Costs			\$176,086											
II.	Demolition Costs														
A.	Building														
	Height of Building (ft)			24	24	24	25	25	25	14	19	0	14	21	35
	Volume of Building (ft³)			794,000	30,720	192,000	320,000	320,000	37,560	91,000	333,000	5,600	73000	16,500	6,300
	Demolition Cost			\$0.306	\$0.306	\$0.306	\$0.306	\$0.306	\$0.306	\$0.306	\$0.306	\$0.306	\$0.306	\$0.306	\$0.306
	Subtotal Building Demolition Costs			\$242,805	\$9,394	\$58,714	\$97,856	\$97,856	\$11,486	\$27,828	\$101,831	\$1,712	\$22,323	\$5,046	\$1,927
B.	Concrete Floor														
	Area of Concrete Floor (ft²)			23,760	500	8,000	12800	12800	0	6500	18000	0	5400	800	180
	Demolition Cost			\$5.84	\$5.84	\$5.84	\$5.84	\$5.84	\$5.84	\$5.84	\$5.84	\$5.84	\$5.84	\$5.84	\$5.84
	Subtotal Concrete Floor Demolition Costs			\$138,782	\$2,921	\$46,728	\$74,765	\$74,765	\$0	\$37,967	\$105,138	\$0	\$31,541	\$4,673	\$1,051
C.	Concrete Footing														
	Length of Concrete Footing (ft)			617	89	358	453	453	0	322	537	0	294	113	54
	Demolition Cost			\$21.76	\$21.76	\$21.76	\$21.76	\$21.76	\$21.76	\$21.76	\$21.76	\$21.76	\$21.76	\$21.76	\$21.76
	Subtotal Concrete Footing Demolition Costs			\$13,415	\$1,946	\$7,784	\$9,847	\$9,847	\$0	\$7,017	\$11,677	\$0	\$6,396	\$2,462	\$1,168
	Subtotal Demolition Costs per Building			\$395,002	\$14,261	\$113,226	\$182,468	\$182,468	\$11,486	\$72,812	\$218,646	\$1,712	\$60,260	\$12,181	\$4,146
	Total Demolition Costs			\$1,549,566											
III.	Disposal Costs														
A.	Building														
	Volume of Building (cy)			29407	1138	7111	11852	11852	1391	3370	12333	207	2704	611	233
	Off-Site County Landfill														
	Percentage (%)			100	100	100	100	100	100	100	100	100	100	100	100
	Total Volume for Disposal - Incl. 33% Factor (cy)			9704	375	2347	3911	3911	459	1112	4070	68	892	202	77
	Disposal Cost, Landfill (cy)			\$42.17	\$42.17	\$42.17	\$42.17	\$42.17	\$42.17	\$42.17	\$42.17	\$42.17	\$42.17	\$42.17	\$42.17
	Subtotal County Facility Off-Site Disposal Costs			\$409,204	\$15,832	\$98,951	\$164,919	\$164,919	\$19,357	\$46,899	\$171,618	\$2,886	\$37,622	\$8,504	\$3,247
B.	Concrete Floor														
	Area of Concrete Floor (ft²)			23760	500	8000	12800	12800	1500	6500	18000	1186	3000	800	180
	Average Thickness of Concrete Floor (ft)			0.75	0.75	0.75	0.75	0.75	0.75	0.75	0.75	0.75	0.75	0.75	0.75
	Volume of Concrete Floor (ft³)			17820	375	6000	9600	9600	1125	4875	13500	889.5	2250	600	135
	Volume of Concrete Floor (cy)			660	14	222	356	356	42	181	500	33	83	22	5
1.	On-Site Concrete Disposal														
	Percentage (%)			75	75	75	100	100	100	100	100	100	100	100	100

**Cameco Resources  
Highland Uranium Project  
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		Central Plant	Dryer Building	Satellite No. 1	Satellite No. 2	Satellite No. 3	Sat. No. 3 Fab Shop	Yellowcake Warehouse	South Warehouse	Suspended Walkway	Changehouse and Lab	Process/ Fire Water	Potable Water Bldg
<b>Building Demolition and Disposal</b>													
	Volume for Disposal (cy)	495	10	167	356	356	42	181	500	33	83	633	5
	Concrete Disposal On Site (cy)	\$9.08	\$9.08	\$9.08	\$9.08	\$9.08	\$9.08	\$9.08	\$9.08	\$9.08	\$9.08	\$9.08	\$9.08
	Subtotal County Facility Off-Site Disposal Costs	\$4,492	\$95	\$1,513	\$3,227	\$3,227	\$378	\$1,639	\$4,538	\$299	\$756	\$5,748	\$45
2.	NRC-Licensed Facility												
	Percentage (%)	25	25	25	0	0	0	0	0	0	0	0	0
	Volume for Disposal (ft <sup>3</sup> )	4455	94	1500	0	0	0	0	0	0	0	0	0
	Transportation and Disposal Unit Cost (\$/ft <sup>3</sup> )	\$7.32	\$7.32	\$7.32	\$7.32	\$7.32	\$7.32	\$7.32	\$7.32	\$7.32	\$7.32	\$7.32	\$7.32
	Subtotal NRC-Licensed Facility Disposal Costs	\$32,626	\$687	\$10,985	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
	Subtotal Concrete Floor Disposal Costs	\$37,118	\$782	\$12,498	\$3,227	\$3,227	\$378	\$1,639	\$4,538	\$299	\$756	\$5,748	\$45
C.	Concrete Footing												
	Length of Concrete Footing (ft)	617	89	358	453	453	0	322	537	124	294	113	54
	Average Depth of Concrete Footing (ft)	4	4	4	4	4	4	4	4	4	4	4	4
	Average Width of Concrete Footing (ft)	1	1	1	1	1	1	1	1	1	1	1	1
	Volume of Concrete Footing (ft <sup>3</sup> )	2466	358	1431	1810	1810	0	1290	2147	496	1176	453	215
	Volume of Concrete Footing (cy)	91	13	53	67	67	0	48	80	18	44	17	8
	Concrete Disposal On Site (cy)	\$9.08	\$9.08	\$9.08	\$9.08	\$9.08	\$9.08	\$9.08	\$9.08	\$9.08	\$9.08	\$9.08	\$9.08
	Subtotal Concrete Footing Disposal Costs	\$829	\$120	\$481	\$608	\$608	\$0	\$434	\$722	\$167	\$395	\$152	\$72
	Subtotal Disposal Costs per Building	\$447,151	\$16,734	\$111,930	\$168,754	\$168,754	\$19,735	\$48,972	\$176,878	\$3,352	\$38,773	\$14,404	\$3,364
<b>Total Disposal Costs</b>		<b>\$1,414,755</b>											
<b>IV. Health and Safety Costs</b>		Accounted for on GW REST											
<b>SUBTOTAL BUILDING DEMOLITION AND DISPOSAL COSTS</b>		<b>\$975,268</b>	<b>\$49,886</b>	<b>\$228,313</b>	<b>\$356,274</b>	<b>\$356,274</b>	<b>\$31,221</b>	<b>\$121,784</b>	<b>\$395,524</b>	<b>\$5,064</b>	<b>\$99,033</b>	<b>\$26,585</b>	<b>\$7,510</b>
<b>TOTAL BUILDING DEMOLITION AND DISPOSAL COSTS</b>		<b>\$3,140,407</b>											



**Cameco Resources  
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Building Demolition and Disposal			Potable Water Tank Slab	Central Plant Tank Slabs	Selenium Plant	SRHUP #9 DDW	Vollman 33-27 DDW	Morton 1-20 DDW
<b>I. Decontamination Costs</b>								
A.	Wall Decontamination							
	Area to be Decontaminated (ft <sup>2</sup> )		0	0	4,000	0	0	0
	HCl Acid Wash, including labor (\$/ft <sup>2</sup> )		\$0.94	\$0.94	\$0.94	\$0.94	\$0.94	\$0.94
	Subtotal Wall Decontamination Costs		\$0	\$0	\$3,774	\$0	\$0	\$0
B.	Concrete Floor Decontamination							
	Area to be Decontaminated (ft <sup>2</sup> )		0	0	9,600	1260	1260	1260
	HCl Acid Wash, including labor (\$/ft <sup>2</sup> )		\$0.53	\$0.53	\$0.53	\$0.53	\$0.53	\$0.53
	Subtotal Concrete Floor Decontamination Costs		\$0	\$0	\$5,042	\$662	\$662	\$662
C.	Deep Well Injection Costs							
	Total kgals for Injection (1 gal used per ft <sup>2</sup> )		0	0	13.6	1.26	1.26	1.26
	Deep Well Injection Unit Cost (\$/kgals)		\$1.06	\$1.06	\$1.06	\$1.06	\$1.06	\$1.06
	Subtotal Deep Well Injection Costs		\$0	\$0	\$14	\$1	\$1	\$1
	Subtotal Decontamination Costs per Building		\$0	\$0	\$8,830	\$663	\$663	\$663
<b>Total Decontamination Costs</b>								
<b>II. Demolition Costs</b>								
A.	Building							
	Height of Building (ft)		0	0	25	12	12	12
	Volume of Building (ft <sup>3</sup> )		0	0	320,000	15120	15120	15120
	Demolition Cost		\$0.306	\$0.306	\$0.306	\$0.306	\$0.306	\$0.306
	Subtotal Building Demolition Costs		\$0	\$0	\$97,856	\$4,624	\$4,624	\$4,624
B.	Concrete Floor							
	Area of Concrete Floor (ft <sup>2</sup> )		1256	7854	12800	1260	1260	1260
	Demolition Cost		\$5.84	\$5.84	\$5.84	\$5.84	\$5.84	\$5.84
	Subtotal Concrete Floor Demolition Costs		\$7,336	\$45,875	\$74,765	\$7,360	\$7,360	\$7,360
C.	Concrete Footing							
	Length of Concrete Footing (ft)		0	0	453	142	142	142
	Demolition Cost		\$21.76	\$21.76	\$21.76	\$21.76	\$21.76	\$21.76
	Subtotal Concrete Footing Demolition Costs		\$0	\$0	\$9,847	\$3,089	\$3,089	\$3,089
	Subtotal Demolition Costs per Building		\$7,336	\$45,875	\$182,468	\$15,073	\$15,073	\$15,073
<b>Total Demolition Costs</b>								
<b>III. Disposal Costs</b>								
A.	Building							
	Volume of Building (cy)		0	0	11852	560	560	560
	Off-Site County Landfill							
	Percentage (%)		100	100	100	100	100	100
	Total Volume for Disposal - Incl. 33% Factor (cy)		0	0	3911	185	185	185
	Disposal Cost, Landfill (cy)		\$42.17	\$42.17	\$42.17	\$42.17	\$42.17	\$42.17
	Subtotal County Facility Off-Site Disposal Costs		\$0	\$0	\$164,919	\$7,792	\$7,792	\$7,792
B.	Concrete Floor							
	Area of Concrete Floor (ft <sup>2</sup> )		1256	7854	12800	1260	1260	1260
	Average Thickness of Concrete Floor (ft)		0.75	0.75	0.75	0.75	0.75	0.75
	Volume of Concrete Floor (ft <sup>3</sup> )		942	5890.5	9600	945	945	945
	Volume of Concrete Floor (cy)		35	218	356	35	35	35
I.	On-Site Concrete Disposal							
	Percentage (%)		100	100	100	100	100	100

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			Potable Water	Central Plant	Selenium	SRHUP	Vollman	Morton
			Tank Slab	Tank Slabs	Plant	#9 DDW	33-27 DDW	1-20 DDW
<b>Building Demolition and Disposal</b>								
	Volume for Disposal (cy)		35	218	356	35	35	35
	Concrete Disposal On Site (cy)		\$9.08	\$9.08	\$9.08	\$9.08	\$9.08	\$9.08
	Subtotal County Facility Off-Site Disposal Costs		\$317	\$1,980	\$3,227	\$318	\$318	\$318
2.	NRC-Licensed Facility							
	Percentage (%)		0	0	0	0	0	0
	Volume for Disposal (ft <sup>3</sup> )		0	0	0	0	0	0
	Transportation and Disposal Unit Cost (\$/ft <sup>3</sup> )		\$7.32	\$7.32	\$7.32	\$7.32	\$7.32	\$7.32
	Subtotal NRC-Licensed Facility Disposal Costs		\$0	\$0	\$0	\$0	\$0	\$0
	Subtotal Concrete Floor Disposal Costs		\$317	\$1,980	\$3,227	\$318	\$318	\$318
C.	Concrete Footing							
	Length of Concrete Footing (ft)		0	0	453	142	142	142
	Average Depth of Concrete Footing (ft)		4	4	4	4	4	4
	Average Width of Concrete Footing (ft)		1	1	1	1	1	1
	Volume of Concrete Footing (ft <sup>3</sup> )		0	0	1810	568	568	568
	Volume of Concrete Footing (cy)		0	0	67	21	21	21
	Concrete Disposal On Site (cy)		\$9.08	\$9.08	\$9.08	\$9.08	\$9.08	\$9.08
	Subtotal Concrete Footing Disposal Costs		\$0	\$0	\$608	\$191	\$191	\$191
	Subtotal Disposal Costs per Building		\$317	\$1,980	\$168,754	\$8,301	\$8,301	\$8,301
<b>Total Disposal Costs</b>								
<b>IV. Health and Safety Costs</b>			Accounted for on GW REST					
SUBTOTAL BUILDING DEMOLITION AND DISPOSAL COSTS			\$7,653	\$47,855	\$360,052	\$24,037	\$24,037	\$24,037
<b>TOTAL BUILDING DEMOLITION AND DISPOSAL COSTS</b>								



**Cameco Resources  
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<b>Miscellaneous Reclamation</b>						
<b>I. CPF/Office Area Reclamation</b>						
	Concrete Pad= 0.3 acres					
	Total Area = 10 acres					
A.	Asphalt					
	Area of Asphalt (acres)	3.4				
	Ripping Cost (per acre)	\$969.18				
	Average Thickness (ft)	0.50				
	Moving Materials (0% Grade)	\$1,188				
	Volume of Asphalt (cy)	2,743				
	Disposal Cost	\$42,17				
	Subtotal Asphalt Ripping and Disposal Costs	\$130,524				
B.	Ripping Overburden with Dozer					
	Overburden Surface Area (acres)	10.6				
	Ripping Cost (per acre)	\$1,330.59				
	Subtotal Ripping Overburden Costs	\$14,064				
C.	Topsoil Application					
	Area of surface disturbance (ft <sup>2</sup> )	130680				
	Average thickness of topsoil (ft)	0.5				
	Average haul distance (ft)	2000				
	Surface grade (%)	0%				
	Volume of Topsoil (cy)	2,420				
	Moving Materials (0% Grade)	\$1.84				
	Subtotal Topsoil Application Costs	\$4,448				
D.	Discing/Seeding					
	Surface Area (acres)	13				
	Discing/Seeding Unit Cost (\$/acre)	\$548				
	Subtotal Discing/Seeding Costs	\$7,120				
<b>Total CPP/Office/Yard Area Reclamation</b>		<b>\$156,156</b>				
<b>II. Access Road Reclamation (includes culverts)</b>						
		<b>CPP/Office Area</b>	<b>Sat No. 1</b>	<b>Sat No. 3</b>	<b>Connecting Road</b>	<b>Sat No. 2 to Rancher Rd</b>
A.	Assumptions					
	Surface grade	5%	0%	0%	0%	0%
	Length of Road (ft)	13200	15840	5280	10560	2640
	Width of Road (ft)	25	30	30	30	10
	Area of road (acres)	7.6	10.9	3.6	7.3	0.6
B.	Ripping and Hauling Asphalt					
	Assumptions					
	Average Haul Distance (feet)	5500	0	0	0	0.0
	Average Thickness of Asphalt (ft)	0.5	0.5	0.5	0.5	0.5
	Ripping Cost (per acre)	\$969.18	\$969.18	\$969.18	\$969.18	\$969.18
	Volume of Asphalt (cy)	6111	8800	2933	5867	489
	Moving Materials (0% Grade)	\$1.84	\$1.84	\$1.84	\$1.84	\$1.84
	Subtotal Ripping and Hauling Asphalt	\$18,575.08	\$26,748.12	\$8,916.04	\$17,832.08	\$1,486.01
C.	Gravel Road Base Removal					
	Average haul distance (ft)	0	1000	1000	1000	0
	Gravel Road Base Width (ft)	0	14	14	14	0
	Gravel Road Base Area (acres)	0.00	5.09	1.70	3.39	0.00
	Average Road Base Depth (ft)	0	0.5	0.5	0.5	0
	Volume of Road Base (cy)	0	4107	1369	2738	0
	Moving Materials (0% Grade)	\$1.42	\$1.42	\$1.42	\$1.42	\$1.42
	Subtotal Gravel Road Base Removal Costs	\$0	\$5,823	\$1,941	\$3,882	\$0
D.	Ripping Overburden with Dozer					
	Overburden Surface Area (acres)	0.0	10.9	3.6	7.3	0.6
	Ripping Cost (per acre)	\$1,330.59	\$1,330.59	\$1,330.59	\$1,330.59	\$1,330.59
	Subtotal Ripping Overburden Costs	\$0	\$14,516	\$4,839	\$9,677	\$806
E.	Topsoil Application					
	Average haul distance (ft)	1500	5000	1500	1500	1500

**Cameco Resources  
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<b>Miscellaneous Reclamation</b>											
	Topsoil Surface Area (ft <sup>2</sup> )	330000	475200	158400	316800	26400					
	Depth of Topsoil (ft)	0	0	0	0	0					
	Volume of Topsoil (cy)	0	0	0	0	0					
	Moving Materials (0% Grade)	\$1.42	\$1.42	\$1.42	\$1.42	\$1.42					
	Subtotal Topsoil Application Costs	\$0	\$0	\$0	\$0	\$0					
F.	Discing/Seeding										
	Surface Area (acres)	7.6	10.9	3.6	7.3	0.6					
	Discing/Seeding Unit Cost (\$/acre)	\$548	\$548	\$548	\$548	\$548					
	Subtotal Discing/Seeding Costs	\$4,149	\$5,975	\$1,992	\$3,983	\$332					
	Multiplier for Projected Additions	0	0	0	0	0					
	Subtotal Reclamation Costs per Access Road	\$22,724	\$53,062	\$17,688	\$35,374	\$2,624					
	<b>Total Access Road Reclamation Costs</b>	<b>\$131,472</b>									
		SAT2 to SAT1 / Morton 1-20 WW Pipeline	SAT3 to SAT2 PSR	H-WF Rest. Bypass	Vollman WW Pipeline	SRHUP 9 WW Pipeline	SAT3 to SAT2	HUP to SR DDW Pipeline	Pipeline to Irrigator 1	SAT2 to PSR2	
III.	<b>Waste Water Pipeline Reclamation</b>	24000	22000	2200	13000	4000	10950	9700	24000	5600	
	Length of Trench (ft)										
A.	Removal and Loading										
	Main Pipeline Removal Unit Cost (\$/ft of trench)	\$3.71	\$3.71	\$3.71	\$3.71	\$3.71	\$3.71	\$3.71	\$3.71	\$3.71	
	Subtotal Trunkline Removal and Loading Costs	\$89,119	\$81,693	\$8,169	\$48,273	\$14,853	\$40,661	\$36,019	\$89,119	\$20,794	
B.	Transport and Disposal Costs (NRC-Licensed Facility)										
	1. 3" HDPE Trunkline										
	Piping Length (ft)	24000	0	2200	0	4000	0	0	0	0	
	Chipped Volume Reduction (ft <sup>3</sup> /ft)	0.023	0.023	0.023	0.023	0.023	0.023	0.023	0.023	0.023	
	Chipped Volume (ft <sup>3</sup> )	559	0	51	0	93	0	0	0	0	
	2. 4" HDPE Trunkline										
	Piping Length (ft)	0	22000	0	13000	0	0	0	6000	0	
	Chipped Volume Reduction (ft <sup>3</sup> /ft)	0.038	0.038	0.038	0.038	0.038	0.038	0.038	0.038	0.038	
	Chipped Volume (ft <sup>3</sup> )	0	846	0	500	0	0	0	231	0	
	3. 6" HDPE Trunkline										
	Piping Length (ft)	0	0	0	0	0	10950	9700	0	3500	
	Chipped Volume Reduction (ft <sup>3</sup> /ft)	0.083	0.083	0.083	0.083	0.083	0.083	0.083	0.083	0.083	
	Chipped Volume (ft <sup>3</sup> )	0	0	0	0	0	913	809	0	292	
	4. 8" HDPE Trunkline										
	Piping Length (ft)	0	0	0	0	0	0	0	24000	0	
	Chipped Volume Reduction (ft <sup>3</sup> /ft)	0.141	0.141	0.141	0.141	0.141	0.141	0.141	0.141	0.141	
	Chipped Volume	0	0	0	0	0	0	0	3391	0	
	Total Pipeline Disposal Volume	559	846	51	500	93	913	809	3622	292	
	Volume for Disposal Assuming Void Space (ft <sup>3</sup> )	615	931	56	550	102	1004	890	3984	321	
	Transportation and Disposal Unit Cost (NRC-Licensed Facility) (\$/ft <sup>3</sup> )	\$5.77	\$5.77	\$5.77	\$5.77	\$5.77	\$5.77	\$5.77	\$5.77	\$5.77	
	Subtotal Transport and Disposal Costs	\$3,548	\$5,372	\$323	\$3,173	\$589	\$5,793	\$5,135	\$22,987	\$1,852	
C.	Discing/Seeding										
	Width of Pipeline Trench (ft)	10	10	8	8	8	8	8	8	8	
	Area of Pipeline Trench (acres)	5.5	5.1	0.4	2.4	0.7	2.0	1.8	4.4	1.0	
	Discing/Seeding Unit Cost (\$/acre)	\$548	\$548	\$548	\$548	\$548	\$548	\$548	\$548	\$548	
	Subtotal Discing/Seeding Costs	\$3,017	\$2,766	\$221	\$1,308	\$402	\$1,101	\$976	\$2,414	\$563	
	Subtotal Reclamation Costs per Pipeline	\$95,684	\$89,831	\$8,713	\$52,754	\$15,844	\$47,555	\$42,130	\$114,520	\$23,209	
	<b>Total Pipeline Reclamation Costs</b>	<b>\$490,240</b>									
IV.	<b>Radium Settling Basin Reclamation</b>	<b>E. Radium Pond</b>		<b>W. Radium Pond</b>							
	*Cost estimates based on planned expenditures (June 2013)										
A.	Soil Sampling and Monitoring	\$0	\$0								
	*Soil Sampling and Characterization were Complete in 2011.										
B.	Task Training and Access Control	\$3,657	\$3,657								
C.	Subsoil Removal and Loading	\$15,687	\$15,687								
D.	Site Backfill	\$14,334	\$14,334								
E.	Revegetation	\$6,318	\$6,318								
F.	Transportation & Disposal to 11e.(2) Facility										



**Cameco Resources  
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<b>Miscellaneous Reclamation</b>					
	Volume of Subsoil for Disposal (cy)		242.5	242.5	
	Transportation and Disposal Unit Cost (\$/cy)		\$156.73	\$156.73	
	Subtotal Byproduct Material Transportation & Disposal Costs		\$38,007	\$38,007	
	<b>Subtotal Radium Pond Reclamation</b>		\$78,002	\$78,003	
	<b>Total Settling Basin/Ponds Reclamation Costs</b>		<b>\$156,005</b>		
<b>V.</b>	<b>Purge Storage Reservoir Reclamation</b>		<b>PSR-1</b>	<b>PSR-2</b>	
A.	Soil Sampling and Monitoring				
	Number of Soil Samples		10	10	
	\$/Sample		\$255	\$255	
	Subtotal Soil Sampling and Monitoring Costs		\$2,550	\$2,550	
B.	Leachate Collection System Removal Costs		\$5,000	\$0	
C.	Topsoil/Subsoil Application				
	Assumptions:				
	Average haul distance (ft)		1000	150	
	Surface grade (%)		0	0	
	Volume of Topsoil/Subsoil (cy)		83000	74000	
	Topsoil/Subsoil Unit Cost per WDEQ Guideline No.12, App.C (\$/cy)		\$1,418	\$0.00	
	Topsoil/Subsoil Unit Cost per WDEQ Guideline No.12, App.E (\$/cy)		\$0.00	\$0.386	
	Subtotal Topsoil/Subsoil Application Costs per Reservoir		\$117,686	\$28,571	
D.	Discing/Seeding				
	Surface Area (acres)		6	32	
	Discing/Seeding Unit Cost (\$/acre)		\$548	\$548	
	Subtotal Discing/Seeding Costs		\$3,286	\$17,525	
E.	Well Abandonment				
	Number of Wells		5	16	
	Average Depth (ft)		60	100	
	Abandonment Cost		\$2.75	\$2.75	
	Small Site Grading and Seeding (<1000 sq. feet)		\$55	\$55	
	Remove and Dispose Casing (top few feet)		\$33	\$33	
	Monitoring Well Concrete Pedestal Disposal		\$110	\$110	
	Subtotal Well Abandonment Cost		\$1,815	\$7,568	
	Subtotal Reclamation Costs per Reservoir		\$130,337	\$56,214	
	<b>Total Purge Storage Reservoir Reclamation Costs</b>		<b>\$186,551</b>		
<b>VI.</b>	<b>Irrigation Area Reclamation</b>		<b>Irrigator No. 1A</b>	<b>Irrigator No. 2</b>	
A.	Irrigation Equipment Removal Costs		\$2,000	\$2,000	
B.	Plowing				
	Assumptions:				
	Plowing Unit Cost (\$/acre)		\$100	\$100	
	Irrigation Area (acres)		55	106	
	Number of Cultivations		2	2	
	Subtotal Plowing Costs		\$11,000	\$21,200	
C.	Discing/Seeding				
	Discing/Seeding Unit Cost (\$/acre)		\$548	\$548	
	Subtotal Discing/Seeding Costs		\$30,122	\$58,053	
	Subtotal Reclamation Costs per Irrigation Area		\$43,122	\$81,253	
	<b>Total Irrigation Area Reclamation Costs</b>		<b>\$124,375</b>		
<b>VII.</b>	<b>Potential Subsoil Mitigation for Purge Storage Reservoirs</b>		<b>PSR-1</b>	<b>PSR-2</b>	
A.	Subsoil Removal and Loading				
	Surface Area (acres)		6	32	
	Depth (inches)		6	6	
	Volume for Removal (cy)		4,840	25,813	
	Liner and Subsoil Removal Cost		\$5.12	\$5.12	
	Subtotal Removal and Loading		\$24,763	\$132,071	
B.	Subsoil Transportation and Disposal to 11e.(2) Facility				
	Disposal Cost		\$156.73	\$156.73	
	Subtotal Disposal Cost		\$758,573	\$4,045,724	
	Subtotal Reclamation Costs per Reservoir		\$783,336	\$4,177,795	
	<b>Total Purge Storage Reservoir Mitigation Costs</b>		<b>\$4,961,131</b>		

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[illegible]



**Cameco Resources  
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	A-Wellfield	B-Wellfield	C-Wellfield	C-22 Pattern	C Haul Drifts	D-Wellfield	D-Extension	E-Wellfield	F-Wellfield	H-Wellfield	I-Wellfield	J-Wellfield	J-Extension
<b>Pore Volume Calculations</b>													
Flare Factor	4.13	4.13	2.46	2	0	2.88	2.78	2.9	2.1	2.3	1.83	1.92	0
Wellfield Area (ft2)	148,600	676,550	1,067,056	325,000	0	326,750	201,509	971,941	3,431,990	1,222,583	1,146,959	1,148,680	0
Wellfield Area (acres)	3.41	15.53	24.50	7.46	0.00	7.50	4.63	22.31	78.79	28.07	26.33	26.37	0.00
Affected Ore Zone Area (ft2)	148,600	676,550	1,067,056	325,000	0	326,750	201,509	971,941	3,431,990	1,222,583	1,146,959	1,148,680	0
Avg. Completed Thickness	15.0	15.0	16.0	15.0	0.0	17.0	17.0	16.0	16.0	16.0	20.0	15.0	
Porosity	0.27	0.27	0.27	0.27	0.27	0.27	0.27	0.27	0.27	0.27	0.27	0.27	0.27
Affected Volume (ft3)	9,205,770	41,912,273	41,999,324	9,750,000	0	15,997,680	9,523,315	45,098,062	115,314,864	44,991,054	41,978,699	33,081,984	0
Kgallons per Pore Volume	18,592	84,646	84,822	19,691	0	32,309	19,233	91,080	232,890	90,864	84,780	66,812	0
<b>Restoration Schedule (Based on Annual Water Balance/Schedule Update)</b>													
Pre-Restoration Period (yrs)	0	0	0	0	0	0	0	0	6	1	1	6	0
Restoration Period (yrs)	0	0	2	2	2	2	2	5	7	4	6	3	0
Stability Period (yrs)	0	0	1	1	1	1	1	1	1	1	1	1	0
Total # of Years	0	0	3	3	3	3	3	6	14	6	8	10	0
End of Restoration (yrs)	13												
End of Stability (yrs)	14												
<b>Number of Header Houses per Wellfield</b>													
Current	5	18	20	0	0	4	3	15	45	10	6	9	0
Planned	0	0	0	0	0	0	0	0	0	0	0	0	0
Total Estimated	5	18	20	0	0	4	3	15	45	10	6	9	0
Average Header House Volume (ft3)	1600												
<b>Number of Wells (In Service) per Wellfield</b>													
Production Wells (P)				Inc in MU-C	Inc in MU-C		Inc in MU-D						
Current	0	133	201	0	0	91	0	140	459	166	131	114	0
Planned	0	0	0	0	0	0	0	0	0	0	0	0	0
Total Estimated	0	133	201	0	0	91	0	140	459	166	131	114	0
Injection Wells (I)													
Current	1	194	258	0	0	143	0	229	704	285	234	233	0
Planned	0	0	0	0	0	0	0	0	0	0	0	0	0
Total Estimated	1	194	258	0	0	143	0	229	704	285	234	233	0
Restoration Wells (R)													
Current	0	0	18	0	0	0	0	0	14	0	0	0	0
Planned	0	0	0	0	0	0	0	0	0	0	0	0	0
Total Estimated	0	0	18	0	0	0	0	0	14	0	0	0	0
Monitor Wells (M, MO, MU, etc.)													
Current	7	64	85	0	0	50	0	59	113	74	34	45	0
Planned	0	0	0	0	0	0	0	0	0	0	0	0	40
Total Estimated	7	64	85	0	0	50	0	59	113	74	34	45	40
Other Wells (Pumping Wells, etc.)													
Current	0	1	0	0	0	4	0	0	0	4	2	0	0
Planned	0	0	0	0	0	0	0	0	0	0	0	0	0
Total Estimated	0	1	0	0	0	4	0	0	0	4	2	0	0
Wellfield Refurbishment (I or P)													
Planned	0	0	5	0	0	0	0	10	180	15	47	18	0
Number of Wells per Wellfield	8	392	567	0	0	288	0	438	1470	544	448	410	40
Total Number of In Service Wells	4605												
<b>Well Completion Details</b>													
Average Well Depth (ft)	500	450	550	550	550	600	600	550	650	500	650	540	540
Average Diameter of Casing (inches)	5	5	5	5	5	5	5	5	5	5	5	5	5
<b>Wellfield Fencing</b>													
Length of Fencing (ft)	0	0	18694	0	0	14060	0	18426	29540	9680	0	9977	0



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<b>Labor Costs</b>		<b>Rate (\$)</b>	<b>Net Benefits*</b>	<b>Units</b>	<b>Source</b>
Environmental Manager/RSO		\$46.00	\$64.40	hour	MSEC**
Restoration Manager		\$40.00	\$56.00	hour	MSEC
Environmental Tech/HPT		\$25.00	\$35.00	hour	MSEC
Operator/Laborer		\$26.00	\$36.40	hour	MSEC
Maintenance Tech		\$23.00	\$32.20	hour	MSEC
*Includes additional 40% net benefits based on InfoMine USA cost data for Surface Metal and Industrial Mineral Mines - Western U.S. (Table 5)					
**Mountain States Employers Council, 2012 Survey, Mining Industry Compensation & Benefits					
<b>Utility Costs</b>		<b>Rate (\$)</b>	<b>Profit &amp; Overhead</b>	<b>Units</b>	<b>Source</b>
Electrical Costs		\$0.0597	included	kWhr	Actual Costs-2013
Kilowatt to Horsepower		0.746	included	Kw/HP	N/A
Efficiency - Downhole Pumps		80%	included	Percent	N/A
Efficiency - Surface Pumps		90%	included	Percent	N/A
Natural Gas - Satellite No. 2/Selenium Treatment Plant		\$25,656.44	included	year	Actual Costs-2012
Propane - Satellite No. 2/Selenium Treatment Plant		\$3,523.28	included	year	Actual Costs-2012
Propane - Satellite No. 3		\$69,132.09	included	year	Actual Costs-2012
<b>Chemical &amp; Material Costs</b>		<b>Rate (\$)</b>	<b>Profit &amp; Overhead</b>	<b>Units</b>	<b>Source</b>
Antiscalant for RO (Hypersperse)		\$3.9050	included	pound	Actual Costs-2013
Antiscalant for RO (ScaleTrol)		\$4.5177	included	pound	Actual Costs-2013
Sodium Tripolyphosphate		\$1.0893	included	pound	Actual Costs-2013
EDTA Tetrasodium Dihydrate		\$1.8774	included	pound	Actual Costs-2013
Sodium Sulfide		\$0.5520	included	pound	Quote-2013
Hydrochloric Acid		\$0.1992	included	pound	Actual Costs-2013
Barium Chloride		\$0.7970	included	pound	Actual Costs-2013
Iron Aggregate		\$0.5516	included	pound	Actual Costs-2013
Silica Sand		\$0.1407	included	pound	Actual Costs-2011
Pea Gravel		\$0.0190	included	pound	Actual Costs-2013
<b>Analytical Costs</b>		<b>Rate (\$)</b>	<b>Profit &amp; Overhead</b>	<b>Units</b>	<b>Source*</b>
Modified Guideline 8		\$249.00	included	analysis	Quote: 2012-13
Excursion Parameters (UCL)		\$30.00	included	analysis	Fee Schedule-2013
Restoration Progress Parameters (UCL + U + Se)		\$50.00	included	analysis	Fee Schedule-2013
Irrigator Fluid		\$245.00	included	analysis	Actual Costs-2012
Irrigator Vegetation		\$270.00	included	analysis	Actual Costs-2012
Irrigator Soil		\$255.00	included	analysis	Actual Costs-2012
Irrigator Soil Water		\$150.00	included	analysis	Fee Schedule-2013
Other (Radon, Bioassay, etc.)		\$1,000.00	\$1,100.00	month	Cost Estimate
*All quotes, fee schedules and actual costs based on Energy Laboratories, Inc., Casper, WY					
<b>Equipment Costs</b>		<b>Rate (\$)</b>	<b>Profit &amp; Overhead*</b>	<b>Units</b>	<b>Source</b>
Bandit 1290XP Trailer Mounted Brush Chipper		\$47.93	\$52.72	hour	Equipment Watch**
Bobcat S250 Skid Steer Loader		\$36.57	\$40.23	hour	Equipment Watch
Cat 320C L Trackhoe - 1.25 cu yd bucket		\$100.03	\$110.03	hour	Equipment Watch
Cat 416E Backhoe		\$34.97	\$38.47	hour	Equipment Watch
Cat 924H Loader - 2.4 cu yd bucket		\$52.93	\$58.22	hour	Equipment Watch
Concrete Jaws Labounty - CP-60		\$18.51	\$20.36	hour	Equipment Watch
GEHL DL-8 Rough Terrain Lift Truck		\$56.44	\$62.08	hour	Equipment Watch
Manlift (JLG 600S)		\$47.54	\$52.29	hour	Equipment Watch
MIT Unit		\$30.09	\$33.10	hour	Equipment Watch
Pick-up Truck 3/4 ton 4X4		\$20.13	\$22.14	hour	Equipment Watch
Pulling Unit***		\$35.32	\$38.85	hour	Equipment Watch
*Includes additional 10% Profit & Overhead per WDEQ/LQD Guideline No. 12, Section 12(b)					
**Equipment Watch Rental Rate Blue Book: Volume 1 (1st Half 2013)					
***1 3/4 Ton 4x4 Truck with Hoist					
<b>Quoted Costs</b>		<b>Rate (\$)</b>	<b>Profit &amp; Overhead</b>	<b>Units</b>	<b>Source</b>
Deep Disposal Well - Plug & Abandonment Costs		\$13.62	included	foot	UIC Permit-2012
DDW MIT		\$31.625	included	well	Quote-2013
Well Replacements (Restoration)		\$14,763	included	well	Actual Costs-2013
Bellhole Refurbishment		\$5,530	included	bellhole	Contract-2012
Header House Refurbishment (Typical Wellfield)		\$32,000	included	header house	Actual Costs-2013
Header House Refurbishment (H-Wellfield)		\$10,000	included	header house	Actual Costs-2013
<b>WDEQ/LQD Guideline No. 12 Costs</b>	<b>Appendix</b>	<b>Rate (\$)</b>	<b>Profit &amp; Overhead*</b>	<b>Units</b>	<b>Source</b>
Moving Materials: One-Way Distance 500 feet, 0% grade	Appendix C	\$1.080	\$1.188	bcy	Guideline-10/2012
Moving Materials: One-Way Distance 1,000 feet, 0% grade	Appendix C	\$1.289	\$1.418	bcy	Guideline-10/2012
Moving Materials: One-Way Distance 2,000 feet, 0% grade	Appendix C	\$1.671	\$1.838	bcy	Guideline-10/2012
Moving Materials: One-Way Distance 150 feet, 0% grade	Appendix E	\$0.351	\$0.386	lcy	Guideline-10/2012
Grading Operating Costs	Appendix G	\$75.25	\$82.78	acre	Guideline-10/2012
Fencing Removal	Appendix H	\$0.32	\$0.35	foot	Guideline-10/2012
Ripping Operating Costs (Asphalt)	Appendix I	\$881.07	\$969.18	acre	Guideline-10/2012
Ripping Operating Costs (Overburden)	Appendix II	\$1,209.63	\$1,330.59	acre	Guideline-10/2012
Building Demolition - Mixture of Types	Appendix K	\$0.278	\$0.306	ft3	Guideline-10/2012



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Building Demo Disposal (Average)	Appendix K	\$9.50	\$10.45	cy	Guideline-10/2012	
Concrete (Floor) Demolition - 6" Thick with Rebar	Appendix K	\$5.31	\$5.84	ft2	Guideline-10/2012	
Concrete (Footings) Demolition - 2' Thick, 3' Wide	Appendix K	\$19.78	\$21.76	linear foot	Guideline-10/2012	
Concrete Disposal On-Site	Appendix K	\$8.25	\$9.08	cy	Guideline-10/2012	
Drill Hole Abandonment: Wet Exploration Holes >25 holes	Appendix L	\$3.00	\$3.30	foot	Guideline-10/2012	
Well Abandonment: Monitor, Production, and Injection Wells	Appendix L	\$2.50	\$2.75	foot	Guideline-10/2012	
Incidental Costs: Small Site Grading and Seeding (<1000 sq. feet)	Appendix L	\$50	\$55	site	Guideline-10/2012	
Incidental Costs: Capping	Appendix L	\$10	\$11	each	Guideline-10/2012	
Incidental Costs: Site Location	Appendix L	\$10	\$11	site	Guideline-10/2012	
Incidental Costs: Remove Pump, Wiring, and Drop Pipe	Appendix L	\$0.40	\$0.44	foot	Guideline-10/2012	
Incidental Costs: Remove and Dispose Casing (top few feet)	Appendix L	\$30.00	\$33.00	well	Guideline-10/2012	
Incidental Costs: Monitoring Well Concrete Pedestal Disposal	Appendix L	\$100.00	\$110.00	each	Guideline-10/2012	
Scarification Costs	Appendix P	\$69.02	\$75.92	acre	Guideline-10/2012	
Revegetation Costs-Seed	Appendix Q	\$106.00	\$116.60	acre	Actual Costs-2013	
Revegetation Costs-Mulch	Appendix Q	\$91.88	\$101.07	acre	Actual Costs-2013	
Revegetation Costs-Fertilizer	Appendix Q	\$300.00	\$330.00	acre	Actual Costs-2013	
Revegetation Costs-Total	Appendix Q	\$497.88	\$547.67	acre	Actual Costs-2013	
*Includes additional 10% Profit & Overhead per WDEQ/LQD Guidline No. 12, Section 12(b)						
<b>Construction &amp; Demolition Debris Transportation &amp; Disposal Costs</b>						
Building Volume for Disposal	0.33					
Void Factor (for disposal)	1.1					
	<b>Disposal (\$/ton)</b>	<b>C&amp;D (cy/ton)</b>	<b>Tranport (\$/load)</b>	<b>C&amp;D (cy/load)</b>	<b>Total (\$/cy)</b>	<b>Total (\$/ft3)</b>
C&D Debris (county landfill)	\$62.00	2	\$335.00	30	\$42.17	\$1.56
*Transportation and disposal costs based on actual costs (2013). Transportation and disposal costs include profit and overhead of service provider. Conversion factors of 2 cy/ton and 0.33 to account for air space in buildings based on FEMA - Debris Estimating Field Guide, FEMA 320, September 2010.						
<b>11e.(2) Byproduct Material Transportation &amp; Disposal</b>						
Load Correction Factor: Soil, sand, etc.	1.1					
Load Correction Factor: Process materials, etc.	0.42					
<b>White Mesa</b>	<b>Disposal (\$/ton)</b>	<b>Disposal (\$/cy)</b>	<b>Volume (cy)</b>	<b>Tranport (\$/cy)</b>	<b>Total (\$/cy)</b>	<b>Total (\$/ft3)</b>
Type I: Soil, sand, gravel, rock, concrete rubble, etc.	\$138.97	\$152.87	13.0	\$247.95	\$400.82	\$14.85
Type II: Process material, pumps, motors, etc.	\$160.08	\$67.23	24.7	\$130.50	\$197.73	\$7.32
Type II: Chipped piping	\$160.08	\$67.23	36.4	\$88.55	\$155.78	\$5.77
<b>Pathfinder</b>						
Type I: Soil, sand, rock, gravel, demolition masonry, concrete rubble	N/A	\$130.00	13.0	\$26.73	\$156.73	\$5.80
Type II: Other process waste, process equipment, etc.	N/A	\$378.00	24.7	\$14.07	\$392.07	\$14.52
Type II: Chipped piping	N/A	\$378.00	36.4	\$9.55	\$387.55	\$14.35
*Transportation and disposal costs based on contract amounts as adjusted annually. Transportation and disposal costs include profit and overhead of service provider and include all unloading and decontamination fees, waste tax, fuel surcharges, etc. Tranportation costs assume 1) one truck transports one 13-cy bin of Type I waste, 2) one truck transports one 24.7-cy bin of Type II process waste (including pumps, motors, etc.) and 3) one truck tranports one 36.4-cy bin of Type II chipped piping waste.						

**Cameco Resources  
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<b>GROUNDWATER RESTORATION UNIT COSTS</b>							
<b>Wellfield Pumping</b>							
Equipment							
Wellfield Pump Sizes	5	hp					
Wellfield Pump Flow Rate	25	gpm					
kW to HP Conversion Factor	0.746						
Cost of Electricity	\$0.0597	kWhr					
Efficiency	80%						
<b>Wellfield Pumping Cost</b>	<b>\$0.19</b>	<b>per kgal</b>					
<b>Satellite Pumping</b>							
Equipment							
Satellite Pump Sizes	60	hp					
Satellite Pump Flow Rate	75	gpm					
kW to HP Conversion Factor	0.746						
Cost of Electricity	\$0.0597	kWhr					
Efficiency	90%						
<b>Satellite Pumping Cost</b>	<b>\$0.66</b>	<b>per kgal</b>					
<b>Deep Disposal Well Injection</b>							
Equipment							
Deep Disposal Well Pump Size	75	hp					
Deep Disposal Well Flow Rate	75	gpm					
kW to HP Conversion Factor	0.746						
Cost of Electricity	\$0.0597	kWhr					
Efficiency	90%						
Reagent							
Antiscalant Cost (Scaletrol)	\$4.5177	per lb					
Density of Water	8.34	lbs/gal					
Specific Gravity (Scaletrol)	1.284						
Antiscalant Cost (Scaletrol)	\$48.38	per gal					
Antiscalant Dose (ScaleTrol)	0.0000048	gal/gal					
<b>Deep Disposal Well Cost</b>	<b>\$1.06</b>	<b>per kgal</b>					
<b>PSR2 &amp; Irrigator</b>							
Equipment							
Feed Water Pump	40	hp					
Irrigator Pump	50	hp					
Sampler	0.5	kW					
Irrigator Flow Rate	200	gpm					
kW to HP Conversion Factor	0.746						
Cost of Electricity	\$0.0597	kWhr					
Efficiency	90%						
<b>PSR 2 &amp; Irrigator Cost</b>	<b>\$0.37</b>	<b>per kgal</b>					
<b>Total Groundwater Sweep Costs</b>	<b>\$1.22</b>	<b>per kgal</b>					
<b>Reverse Osmosis</b>							
Equipment							
System Capacity	250	gpm					
Unit Pump	60	hp					
Injection Pump	60	hp					
Waste Pump	15	hp					
kW to HP Conversion Factor	0.746						
Cost of Electricity	\$0.0597	kWhr					
Efficiency	90%						
Reagents							
Tripolyphosphate Usage Rate	0.00000130	lb/gal					
Tripolyphosphate Cost	\$1.0893	per lb					
EDTA Usage Rate	0.00000315	lb/gal					
EDTA Cost	\$1.8774	per lb					
Antiscalant Cost (Hypersperse)	\$3.9050	per lb					
Density of Water	8.34	lbs/gal					
Specific Gravity (Hypersperse)	1.124						
Antiscalant Cost (Hypersperse)	\$36.6061	per gal					



**Cameco Resources  
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Antiscalant Dose (Hypersperse)	0.0000036	gal/gal			
Sodium Sulfide Usage Rate	0.00017	lb/gal			
Sodium Sulfide Cost	\$0.5520	per lb			
<b>RO Cost (without Reductant)</b>	<b>\$0.58</b>	<b>per kgal</b>			
<b>RO Cost (with Reductant)</b>	<b>\$0.67</b>	<b>per kgal</b>			
<b>MIT Costs for Production Wells</b>					
Equipment					
Pulling Unit Hours	4	hrs/day			
Pulling Unit Cost	\$38.85	\$/hour			
MIT Unit Hours	8	hrs/day			
MIT Unit Cost	\$33.10	\$/hour			
Labor					
Required Hours	8	hrs/day			
Required Laborers	1.5	per day			
Labor Cost	\$32.20	\$/hour			
Productivity	4	wells/day			
<b>MIT Cost for Production Wells</b>	<b>\$201.65</b>	<b>per well</b>			
<b>MIT Costs for Injection Wells</b>					
Equipment					
Pulling Unit Hours	0	hrs/day			
Pulling Unit Cost	\$38.85	\$/hour			
MIT Unit Hours	8	hrs/day			
MIT Unit Cost	\$33.10	\$/hour			
Labor					
Required Hours	8	hrs/day			
Required Laborers	1	per day			
Labor Cost	\$32.20	\$/hour			
Productivity	4	wells/day			
<b>MIT Cost for Injection Wells</b>	<b>\$130.60</b>	<b>per well</b>			
<b>Selenium Plant Operating Costs</b>					
Plant Operation					
Selenium Plant Media Change	4	times/year			
Number of Columns in Plant	2	columns			
Reagents					
Barium Chloride	90,000	lb/year			
BaCl Cost	\$0.7970	\$/lb			
Materials					
Iron	12,000	lb/column			
Iron Cost	\$0.5516	\$/lb			
Sand	18,000	lb/column			
Sand Cost	\$0.14	\$/lb			
Gravel	20,000	lb/column			
Gravel Cost	\$0.0190	\$/lb			
Disposal					
ByProduct for Disposal	63	yd <sup>3</sup> /year			
Disposal Cost (incl. Transport)	\$157	per yd <sup>3</sup>			
<b>Selenium Plant Operating Cost</b>	<b>\$157,852.16</b>	<b>per year</b>			
<b>Booster Pump Operating Cost</b>					
Equipment					
Wellfield Pump Sizes	40	hp			
Number of Pumps Running (avg.)	2	per year			
Hours Running	24	per day			
kW to HP Conversion Factor	0.746				
Cost of Electricity	\$0.0597	kWhr			
Efficiency	90%				
<b>Booster Pump Operating Costs</b>	<b>\$34,658.36</b>	<b>per year</b>			
<b>WELL ABANDONMENT UNIT COSTS</b>					
<b>Removal of Contaminated Soil Around Wells</b>					
Equipment					
Cat 416 Backhoe Time	0.25	hours			

**Cameco Resources  
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Cat 416 Backhoe Cost	\$38.47	per hour			
<b>Labor</b>					
Radiation Technician	0.25	hours			
Radiation Technician Cost	\$35.00	per hour			
Operator	0.25	hours			
Operator Cost	\$36.40	per hour			
<b>Disposal</b>					
ByProduct Disposal	0.37	cubic yard			
Disposal Cost (incl. Transport)	\$156.73	per cubic yard			
<b>Removal of Contaminated Soil Cost</b>	<b>\$85.46</b>	<b>per well</b>			
<b>DDW Pump Dismantling and Disposal</b>					
<b>Labor</b>					
Number of Laborers	2	per day			
Number of Pumps Dismantled	0.5	per day			
Hours Per Day	8	hours			
Laborers Cost	\$32.20				
<b>Disposal</b>					
Volume of DDW Pump	240	ft <sup>3</sup>			
ByProduct Disposal	\$7.32	per ft <sup>3</sup>			
<b>DDW Pump Dismanteling and Disposal</b>	<b>\$2,788.03</b>	<b>per pump</b>			
<b>WELLFIELD RECLAMATION COSTS</b>					
<b>Wellfield Piping Removal</b>					
<b>Equipment</b>					
Trackhoe	1	per day			
Trackhoe Cost	\$110.03	per hour			
Loader	1	per day			
Loader Cost	\$58.22	per hour			
Pickup Truck	1	per day			
Pickup Cost	\$22.14	per hour			
Chipper Cost	\$52.72	per hour			
<b>Labor</b>					
Backhoe Operator	\$36.40	per hour			
Loader Operator	\$36.40	per hour			
Laborer	\$32.20	per hour			
Hours Per Day	8	per day			
Productivity	1500	ft/day			
<b>Piping Removal Cost</b>	<b>\$1.86</b>	<b>per foot of pipe</b>			
<b>Piping Reduction</b>					
2" Pipe	0.0107				
3" Pipe	0.0233				
4" Pipe	0.0385				
6" Pipe	0.0834				
8" Pipe	0.1413				
10" Pipe	0.2196				
12" Pipe	0.3088				
14" Pipe	0.3723				
16" Pipe	0.4864				
<b>Production Pump Volume</b>					
Length	66	inches			
Diameter	3.8	inches			
Cubic Inch to Cubic Foot Conversion	0.0006				
<b>Production Pump Volume</b>	<b>0.43</b>	<b>cubic feet</b>			
<b>Trunk Line Removal</b>					
<b>Equipment</b>					
Trackhoe	1	per day			
Trackhoe Cost	\$110.03	per hour			
Loader	1	per day			
Loader Cost	\$58.22	per hour			
Pickup Truck	1	per day			
Pickup Cost	\$22.14	per hour			
Chipper Cost	\$52.72	per hour			
<b>Labor</b>					
Trackhoe Operator	\$36.40	per hour			



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Loader Operator	\$36.40	per hour		
Laborer	\$32.20	per hour		
Hours Per Day	8	per day		
Productivity	750	ft/day		
<b>Buried Piping Removal Cost</b>	<b>\$3.71</b>	<b>per foot of pipe</b>		
<b>Removal of Well Head Covers</b>				
Volume of Well Head Cover (ft <sup>3</sup> )	1.86	cubic feet		
Demolition Cost	\$0.306	per cubic ft		
Decontamination				
Acid Usage	4.1	pounds per wellhead cover		
Acid Cost	\$0.1992	per lbs		
Labor				
Radiation Tech	\$35.00	per hour		
Operator	\$36.40	per hour		
Productivity	10	wellheads per hour		
Disposal				
Void space	10%			
Transportation and Disposal Cost	\$1.56	per ft3		
<b>Removal of Well Head Cover Cost</b>	<b>\$11.72</b>	<b>per well</b>		
<b>Header House Decontamination</b>				
Decontamination				
Acid Usage	20	pounds per header house		
Acid Cost	\$0.20	per pound		
Labor				
Radiation Tech	\$35.00	per hour		
Number of Operators	2	per day		
Operator	\$36.40	per hour		
Hours Per Day	8	per day		
Productivity	1	header house per day		
<b>Header House Decontamination Cost</b>	<b>\$ 621.38</b>	<b>per header house</b>		
<b>Header House Heating</b>				
Heater Power Usage	12.5	kW		
Days Used	180	days per year		
Electricity Cost	\$0.0597	kWhr		
<b>Header House Heating Cost</b>	<b>\$3,222</b>	<b>per year</b>		
<b>WELLFIELD AND SATELLITE AND SURFACE RECLAMATION</b>				
<b>Wellfield Road Reclamation</b>				
Gravel Road Base				
Average Depth	0.25	feet		
Average Width	10	feet		
Material Moved (0% Grade)	\$1.42	bcy		
Cubic Yard to Cubic Feet Conversion	0.04			
Scarification of Road				
Scarification Costs	\$76	per acre		
Average Width	25	feet		
Acre to Sq. Foot Conversion	2.29568E-05			
Grading Cost	\$83	per acre		
Topsoil Depth	0.67	feet		
Discing/Seeding Costs	\$548	per acre		
Linear Feet for Unit Cost	1000	feet		
<b>Wellfield Road Reclamation Cost</b>	<b>\$1,416.31</b>	<b>per 1000 feet</b>		
<b>EQUIPMENT COSTS</b>				
<b>Tank Removal</b>				
Equipment				
Loader	\$58.22	per hour		
Trackhoe	\$110.03	per hour		
Manlift	\$52.29	per hour		
Pickup	\$22.14	per hour		
Lift Truck	\$62.08	per hour		

**Cameco Resources  
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<b>Labor</b>			
Number of Operators	4		
Operator Cost	\$36.40	per hour	
Hours Per Day	8	per day	
Productivity	25	ft <sup>3</sup> /day	
<b>Tank Removal Cost</b>	<b>\$144</b>	<b>per ft<sup>3</sup></b>	
<b>Pipe Removal</b>			
<b>Equipment</b>			
Manlift	\$52.29	per hour	
Pickup	\$22.14	per hour	
Lift Truck	\$62.08	per hour	
Chipper	\$52.72	per hour	
<b>Labor</b>			
Number of Operators	4		
Operator Cost	\$36.40	per hour	
Hours Per Day	8	per day	
Productivity	300	ft <sup>3</sup> /day	
<b>Pipe Removal Cost (Inside Buildings)</b>	<b>\$8.93</b>	<b>per ft</b>	
<b>Pump Removal</b>			
<b>Equipment</b>			
Truck	\$22.14	per hour	
Skid Steer	\$40.23	per hour	
<b>Labor</b>			
Number of Operators	2		
Operator Cost	\$36.40	per hour	
Hours Per Day	8	per day	
Productivity	10	ft <sup>3</sup> /day	
<b>Pump Removal</b>	<b>\$108.14</b>	<b>per ft<sup>3</sup></b>	
<b>Dryer Removal</b>			
<b>Equipment</b>			
Truck	\$22.14	per hour	
Lift Truck	\$62.08	per hour	
<b>Labor</b>			
Number of Operators	4		
Operator Cost	\$36.40	per hour	
Hours Per Day	8	per day	
Productivity	125	ft <sup>3</sup> /day	
<b>Dryer Removal Cost</b>	<b>\$14.71</b>	<b>per ft<sup>3</sup></b>	
<b>RO and Degasser Removal</b>			
<b>Equipment</b>			
Truck	\$22.14	per hour	
Lift Truck	\$62.08	per hour	
<b>Labor</b>			
Number of Operators	2		
Operator Cost	\$36.40	per hour	
Hours Per Day	8	per day	
Productivity	250	ft <sup>3</sup> /day	
<b>RO and Degasser Removal Cost</b>	<b>\$5.02</b>	<b>per ft<sup>3</sup></b>	
<b>BUILDING COSTS</b>			
<b>Acid Wash Walls</b>			
<b>Acid</b>			
Acid Usage	0.05	per square foot	
Acid Cost	\$0.20	per pound	
<b>Equipment</b>			
Manlift	\$52.29	per hour	
<b>Labor</b>			
Laborer	2	people	
Laborer Cost	\$32.20	per hour	



**Cameco Resources  
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Productivity	125	square feet per hour			
Acid Wash Walls Cost	\$0.94	per square foot			
<b>Acid Wash Floors</b>					
Acid					
Acid Usage	0.05	per square foot			
Acid Cost	\$0.20	per pound			
Labor					
Laborer	2	people			
Laborer Cost	\$32.20	per hour			
Productivity	125	square feet per hour			
Acid Wash Floors Cost	\$0.53	per square foot			
<b>Electrical Power</b>					
*Pumping Costs for Operating DDWs, RO, and Wellfield are included in GW Rest Costs					
<b>Satellite 2</b>					
Miscellaneous Pumps, Fans, Sumps, etc.	22.5	HP			
Lighting	35.0625	kW (per square ft)			
kW to HP Conversion Factor	0.746				
Electricity Cost	\$0.0597	per kWhr			
Efficiency Factor	90%				
Operating Hours Per Year	8760	hours			
Satellite 2 Power Cost	\$26,221	per year			
<b>Satellite 3</b>					
Miscellaneous Pumps, Fans, Sumps, etc.	22.5	HP			
Lighting	35.0625	kW (per square ft)			
kW to HP Conversion Factor	0.746				
Electricity Cost	\$0.0597	per kWhr			
Efficiency Factor	90%				
Operating Hours Per Year	8760	hours			
Satellite 3 Power Cost	\$26,221	per year			
<b>Se Plant</b>					
Miscellaneous Pumps, Fans, Sumps, etc.	72.5	HP			
Lighting	23.3	kW			
kW to HP Conversion Factor	0.746	kW (per square ft)			
Electricity Cost	\$0.0597	per kWhr			
Efficiency Factor	90%				
Operating Hours Per Year	8760	hours			
Selenium Power Cost	\$37,619	per year			
<b>DDW - Typical</b>					
Miscellaneous Pumps, Fans, Sumps, etc.	2	HP			
Lighting	0.49	kW			
Heating	12.5	kW	assume operation only 6 mos/yr		
kW to HP Conversion Factor	0.746	kW/hp			
Electricity Cost	\$0.0597	per kWhr			
Efficiency Factor	90%				
Operating Hours Per Year	8760	hours			
DDW Electrical Cost	\$4,225	per year			
<b>MISCELLANEOUS RECLAMATION AND RESTORATION COSTS</b>					
<b>Liner and Subsoil Removal Costs</b>					
Equipment					
Trackhoe Cost	\$ 110.03	per hour			
Loader Cost	\$ 58.22	per hour			
Labor					
Operator	36.40	per hour			
Productivity	40	cubic yards/hour			
Total Removal	\$ 5.12	per cubic yard			